COMMUNITY WILDFIRE PROTECTION AND PRE-DISASTER MITIGATION PLAN

FALLON COUNTY
Baker, Plevna

Flooding at Baker, June 28, 2005

Prepared by:

Beck Consulting
P.O. Box 870
Red Lodge, Montana

FINAL-November 2005

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Executive Summary

Fallon County, Montana, home to 2,774 residents, has prepared this plan for the purpose of becoming more disaster resistant. Every effort was made to draw all interested parties into the preparation of the plan whether formally at the series of public meetings, or informally through one-on-one conversations. The mitigation goals, objectives, and actions or projects were developed utilizing a range of expertise and interests located within the county.

The disasters--natural and other--of most concern to participants in the planning process were hazardous material releases, wildfires, West Nile virus and Mad Cow disease, winter storms, flooding, a major power outage, tornadoes, an oil well blowout, and an incident that would compromise the dispatch center. These hazards were grouped under the following headings; assets, disease, drought, flooding, hazardous materials, summer storms, transportation, wildfires, and winter storms. Each of these hazard groupings is profiled in the following plan with a discussion of historic occurrences and vulnerability. Loss estimates based upon the past for each of the high priority hazards indicate that drought is likely to cause the greatest direct economic impact within the county. However, any disaster that causes loss of life, such as West Nile virus could quickly produce greater losses than another type of hazard.

The two jurisdictions have somewhat, but not significantly different risk exposure. Plevna has risk exposure from hazardous materials on vehicles, wildfire, winter storms, flash flooding, and summer storms and related wind events. Baker has risk exposure from all of the identified hazards. Hazardous materials move through Baker on two state highways and the railroad. Baker also has a small amount of risk exposure from flooding of Sandstone Creek, flash flooding, and exposure to flooding from a failure of the Baker Lake Dam. Oil wells are located near the city of Baker. Human and animal disease incidents, wind events, wildfire, and severe summer and winter storms can and do occur anywhere in the county. A transportation disaster could occur with the railroad or at the airport. The greatest risk of wildland fire occurs along travel, railroad, and utility corridors although the primary ignition source for wildfires in the county is lightning.

Five goals with corresponding objectives and projects were developed for general natural and other hazards.

1. Mitigate the potential loss of life and property from flooding.
2. Minimize damage and loss of life from summer storms.
3. Be prepared for winter storms.
4. Monitor drought conditions.
5. Provide uninterrupted dispatch services for four-county area.

Seven goals with corresponding objectives and projects were developed to mitigate the potential impacts of wildland fire.

1. Protect the people from injury or loss of life due to wildland fire.
2. Maintain and adequate number of trained firefighters in each department.
3. Address distance to water issues in rural areas.
4. Improve location and facility for Baker Fire Department.
5. Raise public awareness about fire danger and fire prevention.
6. Use technology effectively.
7. Improve defensible space.

This plan serves the following jurisdictions, Fallon County and the incorporated communities of Plevna and Baker.

RESOLUTION NO. 11-2-2005

A RESOLUTION TO APPROVE AND ADOPT THE FALLON COUNTY COMMUNITY WILDFIRE PROTECTION AND PRE-DISASTER MITIGATION PLAN

WHEREAS, Fallon County has prepared a Community Wildfire Protection and Pre-Disaster Mitigation Plan ("the Plan");

WHEREAS, the Plan covers rural areas of the county and the incorporated communities, including the town of Plevna, and the city of Baker; and

WHEREAS, the Plan meets all the requirements of the Interim Final Rule published in the Federal Register on February 26, 2003, at 44 CFR Part 201 as part of the Disaster Mitigation Act of 2000.

NOW, THEREFORE BE IT,

RESOLVED, the Fallon County Community Wildfire Protection and Pre-Disaster Mitigation Plan is approved and adopted.

FURTHER RESOLVED, the Fallon County Community Wildfire Protection and Pre-Disaster Mitigation Plan is to be followed and incorporated into planning for the county.

FINALLY RESOLVED, the county will work and cooperate with the two communities to implement the Fallon County Community Wildfire Protection and Pre-Disaster Mitigation Plan.

PASSED and APPROVED by the Fallon County Commission this 4 day of November, 2005.

FOR THE COUNTY OF FALLON, MONTANA

By: Donald Rieger
Donald Rieger, Chair

Attest: Brenda J Wood
County Clerk and Recorder

RESOLUTION NO. 548

A RESOLUTION TO APPROVE AND ADOPT THE FALLON COUNTY COMMUNITY WILDFIRE PROTECTION AND PRE-DISASTER MITIGATION PLAN

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NOW, THEREFORE BE IT,

RESOLVED, the Fallon County Community Wildfire Protection and Pre-Disaster Mitigation Plan is approved and adopted.

FURTHER RESOLVED, the Fallon County Community Wildfire Protection and Pre-Disaster Mitigation Plan is to be followed and incorporated into planning for the city.

FINALLY RESOLVED, the city will work and cooperate with the county and the town to implement the Fallon County Community Wildfire Protection and Pre-Disaster Mitigation Plan.

PASSED and APPROVED by the Baker Town Council this 4th **day of** January **~~, 2005.~~** 2006

FOR THE CITY OF BAKER, MONTANA

By: Clayton Hornung
Clayton Hornung, Mayor

Attest:
Town Clerk

RESOLUTION NO. 10-21-05

A RESOLUTION TO APPROVE AND ADOPT THE FALLON COUNTY COMMUNITY WILDFIRE PROTECTION AND PRE-DISASTER MITIGATION PLAN

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NOW, THEREFORE BE IT,

RESOLVED, the Fallon County Community Wildfire Protection and Pre-Disaster Mitigation Plan is approved and adopted.

FURTHER RESOLVED, the Fallon County Community Wildfire Protection and Pre-Disaster Mitigation Plan is to be followed and incorporated into planning for the town.

FINALLY RESOLVED, the town will work and cooperate with the county and the city to implement the Fallon County Community Wildfire Protection and Pre-Disaster Mitigation Plan.

PASSED and APPROVED by the Plevna Town Council this 31 day of November, 2005.

FOR THE TOWN OF PLEVNA, MONTANA

By: Gary Thielen
Gary Thielen, Mayor

Attest: _____
Town Clerk

ACRONYMS USED IN THIS PLAN

BLM	Bureau of Land Management
CD	Conservation District
CRP	Conservation Reserve Program
CRV	Current Replacement Value
CWPP	Community Wildfire Protection Plan
DEQ	Montana Department of Environmental Quality
DES	Disaster and Emergency Services
DOL	Montana Department of Livestock
DNRC	Department of Natural Resources and Conservation
DPHHS	Montana Department of Public Health and Human Services
E-911	Enhanced 911 emergency calling
EMS	Emergency Medical Services
EOP	Emergency Operations Plan
FEMA	Federal Emergency Management Agency
FmHA	Farm Home Administration
FSA	Farm Service Agency (US Department of Agriculture)
FWP	Montana Fish, Wildlife and Parks
HAZMAT	Hazardous Materials
ISO	Insurance Services Organization
LEPC	Local Emergency Planning Committee
MACO	Montana Association of Counties
MBMG	Montana Bureau of Mines and Geology
MDT	Montana Department of Transportation
MDU	Montana Dakota Utilities
NFIP	National Flood Insurance Program
NFP	National Fire Plan
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources and Conservation Service
NWS	National Weather Service
PDM	Pre-Disaster Mitigation
PPE	Personal Protective Equipment
RFA	Rural Fire Association
RFD	Rural Fire Department
USDA	United States Department of Agriculture
USGS	U.S. Geological Survey
VFA	Volunteer Fire Association
WUI	Wildland Urban Interface

Chapter I: Introduction

Authority

Fallon County intends to become a disaster resistant community by preparing and implementing this Community Wildfire Protection and Pre-Disaster Mitigation Plan. The plan identifies mitigation measures to be taken, guides the expenditure of funds, and raises the awareness about the importance of taking personal and collective (public and private) responsibility for reasonably foreseeable natural disasters. The plan has been prepared utilizing funds from the Bureau of Land Management supplemented by county match met by participation in the planning process. The plan meets the requirements of the National Fire Plan and the Interim Final Rule published in the Federal Register on February 26, 2003, at 44 CFR Part 201 as part of the Disaster Mitigation Act of 2000.

Scope and Plan Organization

This plan is organized into six major chapters.

- Chapter I. Introduction

This chapter provides background material to put the plan and mitigation strategies into the context of Fallon County's unique assets, resources, and hazards.

- Chapter II. Planning Process

This chapter describes how the plan was developed, including public involvement.

- Chapter III. Hazard Evaluation and Risk Assessment

This chapter gives information about historical disaster occurrences in the county then lists potential hazards, hazard profiles, critical facilities, and vulnerable populations. Chapter III also provides information about asset values, for example, how much the county courthouse, the city hall, or the municipal water treatment plant would cost to replace if it was lost in a disaster.

- Chapter IV. Mitigation Strategy

This chapter takes the hazard information and develops goals, objectives and projects that can be accomplished to lessen the chances and/or severity of a potential disaster. Recognizing the limitation of resources to accomplish all projects identified, Chapter IV also provides the local priorities for the projects.

- Chapter V. Wildfire Protection

This chapter addresses wildland fire issues for the county. The current situation with respect to vegetation and fuels, past occurrences of fire, values at risk, and potential losses are described. This chapter also contains goals, objectives, and mitigation actions (projects) that can be done to reduce risk of wildland fire. The projects are prioritized.

- Chapter VI. Plan Maintenance

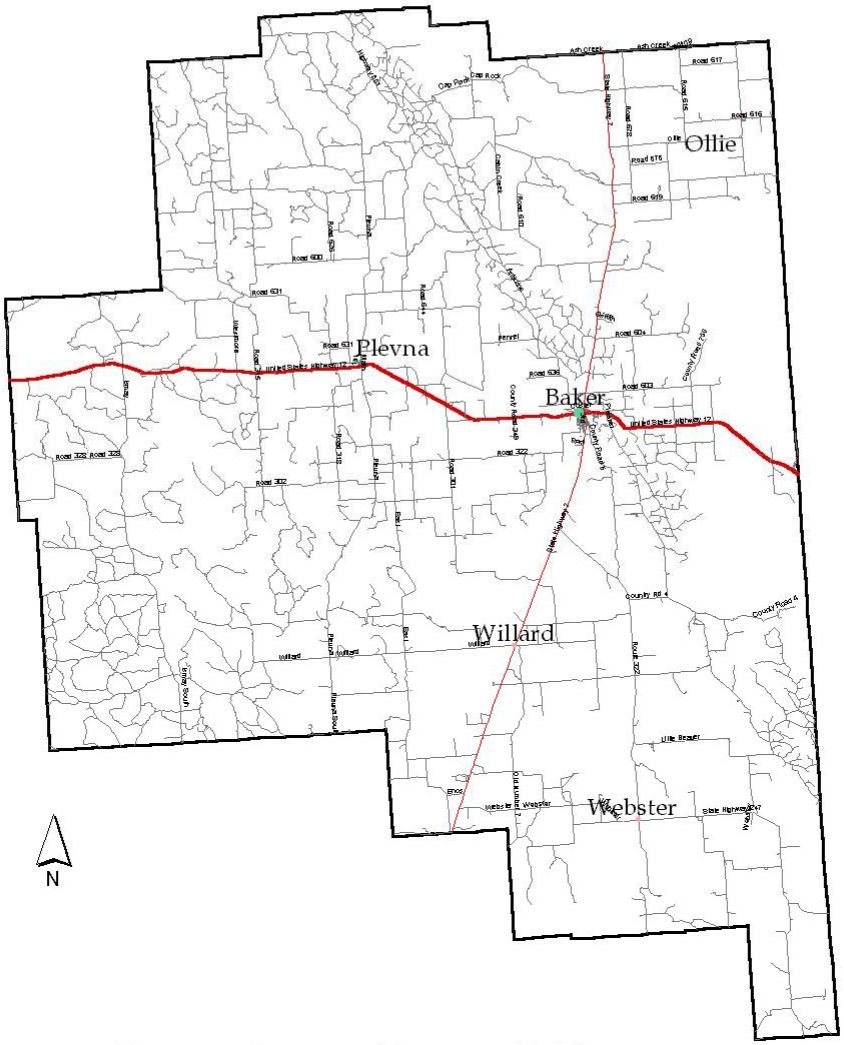
This chapter describes how the plan is to be maintained and kept current. Those responsible for maintaining the plan are identified.

Preparation of the Plan

The community fire protection and pre-disaster mitigation plan was prepared by Barb Beck of Beck Consulting. County Disaster and Emergency Services Coordinator, Sam Thielen, served as the primary contact for the county and assisted in data collection, public involvement, and document review. Fire personnel were key in developing the wildfire risk assessment and mitigation. A portion of the photographs utilized in the news releases and the plan were provided by Sam Thielen and District IV Disaster and Emergency Services Representative, Norman Parrent.

Each of the signing entities to the plan, the town of Plevna, the city of Baker and Fallon County participated in the development of the plan specifically by attending public meetings, providing data, identifying mitigation projects, and setting project priorities. Three public meetings were held, two in Baker and one in Plevna. Public involvement and the planning process are documented in detail in Chapter II.

Fallon County Montana



Project Area

The project area for this plan is Fallon County, Montana, established in 1913. The county is located in eastern Montana. It borders North Dakota to the east, Carter County to the south, Custer County to the west, Prairie County to the west-northwest, and Fallon County to the north.

"Fallon County is located on the Missouri Plateau in the Gt. Plains physiographic province. The area consists predominantly of gently rolling plains with shallow creek valleys and broad, flat divides." Most of the soils in the county formed in place over sedimentary beds and shale. Many of the soils are saline or alkali, limiting the kind and amount of plants that can grow. (Fallon County Soil Survey, 2004)

The county contains two incorporated communities, the town of Plevna, and the city of Baker which also serves as the county seat. Fallon County encompasses 1,633 square miles (Montana Association of Counties.) The county is rural in nature with a density of 1.8 persons per square mile. In 2004, the county was home to an estimated 2,774 residents. (www.census.gov/popest/counties/, quickfacts.census.gov/qfd/states/30/30025) The population decreased 8.6% between 1990 and 2000. This decrease is slightly less than that experienced by neighboring counties likely due to the jobs produced by oil and gas activity. According to U.S. Census Bureau figures for 2000, the county had 1,140 households averaging 2.45 persons per household. The homeownership rate was 77.4%.

Population, Land Use, and Development Trends

The 2000 census gives the population for the town of Plevna as 138 residents and the city of Baker as 1,695 residents. Sixty-five percent of the residents in the county live in one of the two incorporated communities. Fallon County ranked 42 of 56 in the state in terms of total population in 2003. (www.bea.doc.gov/bea/regional/bearfacts)

About 25% of the county is used for dryland crops, and according to the Soil Survey, range makes up about 46% of the land in Fallon County. Some alfalfa and grass hay is also produced along Beaver, O'Fallon, and Sandstone Creeks. Overall, land use in the county has been relatively stable. However, some previously undeveloped private and public lands have experienced renewed oil and gas exploration activity and this is likely to continue.

Developed land in the county is primarily limited to the areas of Plevna and Baker. With the exception of oil and gas activity, there has been little land use change or development. Activity associated with oil and gas exploration and development has resulted in the construction of roads, pipelines, support

facilities, and businesses in and around Baker. The most intense area of activity has been the northeastern portion of the county.

In 2002 there were 327 farms in the county. The farms averaged 2,851acres (Montana Agricultural Statistics, 2004). The total land in farms in 2002 was 932,211 acres. The number of farms was stable between 1997 and 2002 but the average farm size and total acres in farms both increased very slightly between 1997 and 2002. Barley, grass-legume hay, pasture, spring wheat, and winter wheat are the primary dryland crops. (Soil Survey of Fallon County, 2004) The county ranked 8th in the state in oat production in 2003. (Montana Agricultural Statistics, 2004) The Extension office reports that the county has few irrigated acres. Of Montana's 56 counties, Fallon County ranked 43rd in the state for revenues from crop production and 28th in the state for revenues from livestock and livestock products. (Montana Agricultural Statistics, 2004)

The county has three perennial streams, Little Beaver, Sandstone, and O'Fallon Creeks. Little Beaver Creek flows across the southern portion of the county from southwest to northeast. Sandstone Creek flows from the Baker area to the north and east joining O'Fallon Creek.

Sandstone Creek at Plevna, June 2005

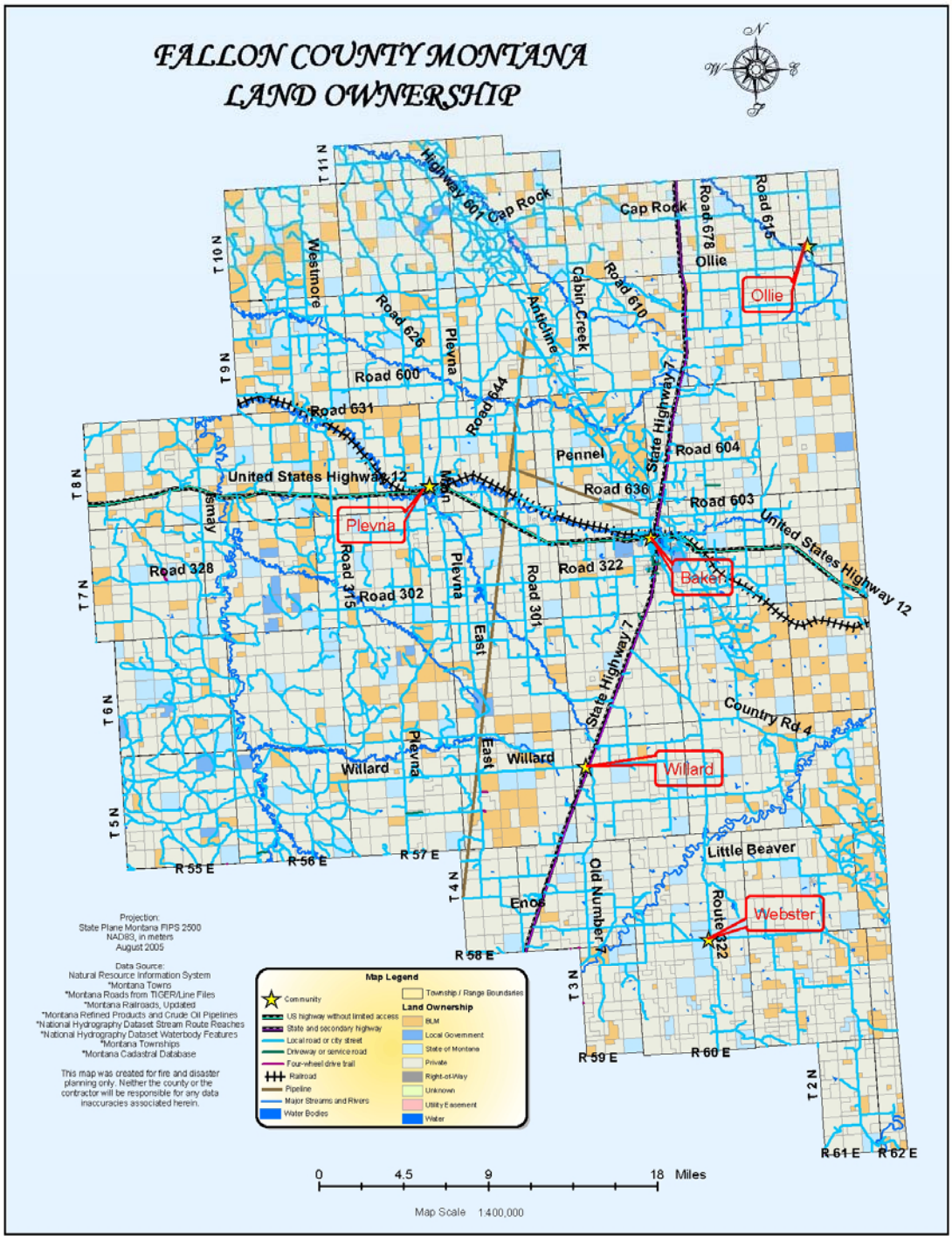
In addition to the perennial streams, there are numerous intermittent streams located across the county. When running, these streams form the tributaries of the above perennial streams which flow primarily to the northwest towards the Yellowstone River. Elevations range from approximately 3550 feet above sea level in the south central area of the county to 2580 feet above sea level in the northwest corner.

Land ownership in the county is predominantly private. Private lands are owned by individuals, farms and ranches, oil companies, and the Burlington Northern Santa Fe railroad**.**

Lands managed by the Bureau of Land Management (BLM)--115,261 surface acres primarily in the eastern half of the county--comprise the largest amount of publicly-owned land. The BLM lands are consolidated in a checker-board pattern south and east, and north and west of Baker with additional small scattered parcels throughout the rest of the county. BLM also manages 254,410 acres of subsurface or federal minerals in the county. (Montana BLM Annual Report, www.blm.gov).

State “school” sections, so named because of their constitutional purpose to fund the school system make up another 70,753 acres of public-owned land. (Jeff Bollman, DNRC, Billings Land Office) The state lands are scattered across the county and range in size from about 320 to about 1280 acres. Most parcels are one section. There are no large consolidated blocks of state land in the county.

Fallon County in cooperation with the city of Baker, has initiated a growth policy. The target completion date for the joint growth policy is December 2005. The county currently has subdivision regulations, but no zoning. (Fallon County Planner, Kit Anderson, June 13, 2005) Plevna has no growth policy.


FALLON COUNTY MONTANA
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Plevna
Anticline
Cabin Creek
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Road 644
Road 631
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Pennel
Road 604
United States Highway 12
Main
Road 636
Road 603
United States Highway 12
Plevna
Sunday
Road 328
Road 315
Road 302
Plevna
Road 322
Baker
Road 301
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State Highway 7
Country Rd 4
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Little Beaver
Old Number 7
Enos
Route 322
Webster
Projection:
State Plane Montana FIPS 2500
NAD83, in meters
August 2005
Data Source:
Natural Resource Information System
*Montana Towns
*Montana Roads from TIGER/Line Files
*Montana Railroads, Updated
*Montana Refined Products and Crude Oil Pipelines
*National Hydrography Dataset Stream Route Reaches
*National Hydrography Dataset Waterbody Features
*Montana Townships
*Montana Cadastral Database
This map was created for fire and disaster planning only. Neither the county or the contractor will be responsible for any data inaccuracies associated herein.
Map Legend
Community
US highway without limited access
State and secondary highway
Local road or city street
Driveway or service road
Four-wheel drive trail
Railroad
Pipeline
Major Streams and Rivers
Water Bodies
Township / Range Boundaries
Land Ownership
BLM
Local Government
State of Montana
Private
Right-of-Way
Unknown
Utility Easement
Water
0
4.5
9
18 Miles
Map Scale 1:400,000

Climate and Weather

Fallon County is located east of the Continental Divide in Montana and subject to continental weather patterns. In general summers are hotter, winters are colder, precipitation is less evenly distributed, skies are sunnier, and winds are stronger than on the west side of the divide. (Western Region Climate Center, Climate of Montana) Prevailing winds generally blow from the west and north. Extreme weather in the county consists of severe thunderstorms containing wind, lightning and hail, and severe winter storms with heavy snowfall, cold temperatures, ice, and strong winds.

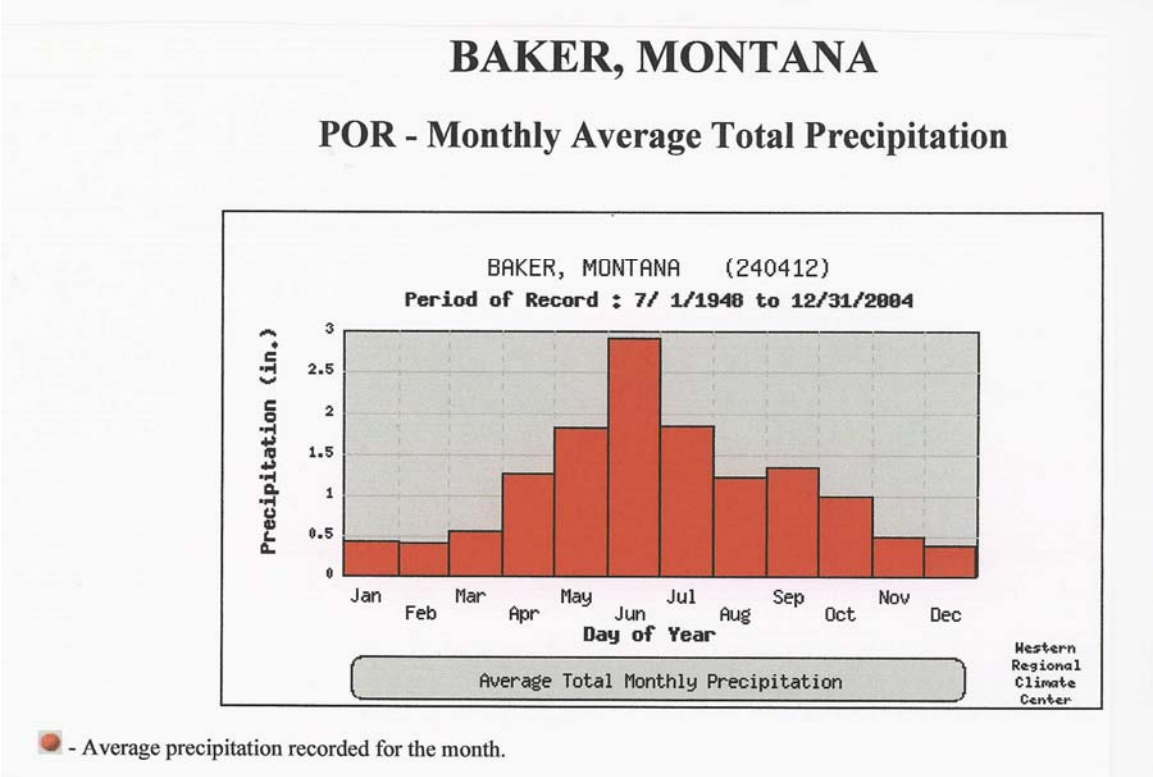
The frost-free period ranges from 100 to 130 days. Mean annual precipitation ranges from 10 to 19 inches. (Fallon County Soil Survey, 2004)

Table 1.1 Average Temperatures at Baker, 1948-2004

	Jan	*Feb*	*Mar*	*Apr*	*May*	*Jun*	*Jul*	*Aug*	*Sep*	*Oct*	*Nov*	*Dec*	*Ann*
Ave max	31.6	31.2	42.2	59.8	68.1	76.1	90.4	88.5	75.8	59.6	43.9	34.4	58.5
Ave min	10.4	9.5	19.9	32.6	41.8	50.6	60.8	58.1	46.1	32.3	18.5	12.1	34.3

Source: Western Regional Climate Center Period of Record Monthly Climate Summary (wrcc.dri.edu)

Monthly snowfall records have been kept at the Baker weather station since 1948. The largest amount of snowfall in a single month occurred in April of 1963, with 23 inches. The most snowfall on record for one winter occurred in the winter of 1966-67, with 52 inches. The snow during this winter was distributed over the months of November through May with no one month exceeding 16 inches. The winter of 1980-81 holds the record for least snowfall among the years for which records were complete, at 8 inches. The average annual snowfall is 27.1 inches and the average snow depth is 1 inch.



As shown above, precipitation is not evenly distributed throughout the year. The month of June typically produces the heaviest precipitation, averaging 2.9 inches. By contrast, January, February, and December have all averaged less than 1 inch of precipitation at Baker during the years 1948-2004.

Specific weather events are covered in more detail in Chapter III under each hazard profile.

County Economy

Cattle arrived in the county in the late 1800's, the railroad was completed in 1908 bringing homesteaders, and gas was discovered in 1915. The first producing oil well was drilled in 1936. The present-day economy of Fallon County depends primarily on oil and gas, beef cattle, small grains, and services. (Fallon County Soil Survey, 2004)

Fallon County residents had a per capita personal income (PCPI) of $23,523 in 2003, which was 93% of the state average and 75% of the national average. (www.bea.doc.gov/bea/regional/bearfacts/)

According to the February 2005 edition of the Montana Department of Labor and Industry's *"Montana Economy as a Glance*" the unemployment rate for the county was 3.8%, the second lowest in the state. Fallon County had 116 private

non-farm establishments with paid employees in 2001. The private non-farm employment was 684. (U.S. Census Bureau QuickFacts Web Page)

The county had a total of 238 employment establishments in 1997. Of this number, 119 or approximately half, employed from 1-4 persons; 70 establishments employed 5-9 person; 29 establishments employed 10-19 persons; 14 establishments employed 20-49 persons; and 5 establishments employed 50-99 persons. One establishment employed 100-249. (http://censtats.census.gov)

Table 1.2. Fallon County 1997 Business Patterns

Industry	*Number of Employees*	*Annual Payroll*	*Total Establishments*
Mining (Oil and Gas)	139	$4,052,000	12
Services	210	$3,375,000	28
Retail	196	$2,272,000	30
Transportation, Public Utilities	78	$1,971,000	11

Source: http://censtats.census.gov/cgi-bin/cbpsic/cbp1sect.pl
Note: 1997 is the final year information was available by Standard Industrial Code or SIC.

According to the latest information available from the U.S. Census Bureau using standard industrial codes (SIC), services, retail trade, and mining provided the largest number of jobs and annual payrolls. While mining had the largest payroll, it did not provide the most jobs. In addition to the SIC categories shown in Table 1.2 there are also jobs in the county in agricultural services, fishing, and forestry (0-19), construction (46), manufacturing (10), wholesale trade (46) finance, insurance, and real estate (41), and unclassified establishments (0-19). Town, city, county, state, and federal entities each provide a small number of jobs as well. (U.S. Census Bureau,1997 Business Patterns by Standard Industrial Code)

Cash receipts from the sale of principal agricultural products and government payments in the county for 2002 totaled $21,085,000. Fallon County ranked 41 in all cash receipts in Montana. (Montana Agricultural Statistics, 2004)

Transportation

The primary transportation corridors through the county are U.S. Highway 12 and State Highway 7. The two highways intersect in the city of Baker. U.S. Highway 12 crosses the county running generally east-west joining up with Interstate 94 to the west in Custer County. State Highway 7 runs north-south, connecting Baker with Fallon to the north and Ekalaka to the south.

Other major secondary state highways running north-south include 320, 322, 493, and 494. Major secondary state highways running east-west include 247, 322, 336, and 494. A network of county roads following section lines where topographically feasible completes the public vehicle transportation network.

Numerous roads have been built throughout the county to access oil and gas development. These roads are generally to good standard and maintained by the industry. Private ranch roads throughout the county provide the remainder of the access for rural residents.

The Burlington Northern Santa Fe (BNSF) railroad also passes through the county. The railroad track follows O'Fallon and Sandstone Creeks southeast to Baker from its departure point with the main line east of Terry. From Baker, the railroad proceeds south and east to the North Dakota line roughly paralleling Highway 12. BNSF primarily carries coal through the county eastbound for generation facilities in North Dakota. Many of the cars retuning to the north and west are empty. The BNSF tracks pass just north of the heart of Baker.

The Federal Aviation Administration lists one airport in Fallon County, the Baker Municipal Airport, at 2973 feet above sea level. The FAA identifier is BHK. This is a public airport located one mile southeast of Baker. No regularly-scheduled commercial air service is available in Fallon County, but the field has a Fixed Base Operator and numerous private aircraft servicing the oil industry.

References

Anderson, Kit, Fallon City-County Planner
Bollman, Jeff, Montana Department of Natural Resources and Conservation
Bureau of Land Management, Montana Annual Report, 2004
DeLorme, Montana Atlas and Gazeteer, 1997
Montana Agricultural Statistics Service, Montana Agricultural Statistics 2004
USDA, Soil Conservation Service, Soil Survey of Fallon County, 2004
www.bea.doc.gov/bea/regional/bearfacts
www.census.gov/popest/counties/quickfacts
www.censtats.census.gov
wrcc.dri.edu (Western Regional Climate Center)

Chapter II: Planning Process

Approach

This plan was prepared through a combination of research by the Fallon County Disaster and Emergency Services Coordinator, the Montana DES District IV Representative, the contracted planner, the National Weather Service, and public meeting input. All individuals contacted for information, from local, state, and federal government, to various businesses, were extremely responsive and helpful.

Public Involvement

The public involvement philosophy for the preparation of this plan was to ensure that any and all interested individuals be offered the opportunity to participate in plan development. The process sought to engage knowledgeable individuals such as the fire chiefs and dispatch center coordinator, elected officials such as the mayors and county commissioners, and the general public. News articles in the Fallon County Times, flyers posted around Baker and Plevna, personal phone calls, and e-mails were the primary means by which information about public meetings and the planning process was made available to the public. Local radio station, KFLN/KJJM also announced the meetings and aired an interview about the planning process. The county does not have a website.

The planning consultant, DES Coordinator, and county commissioners discussed the establishment of a project Steering Committee. However, it was decided to simply use the existing Local Emergency Planning Committee members and the participants at the public meetings to provide guidance to the contractor in development of the plan and for review of draft material.

The county commissioners received a briefing about the project at the kick-off meeting held in Baker on June 13, 2005. A news release about the project and the planning process was provided to the paper and printed. Following the kick-off meeting, a letter was sent to each of the two mayors in the county. The letters explained the purpose for preparing the fire and pre-disaster mitigation plan, gave the overall schedule for the planning process, announced the first meeting, and invited their participation and ultimate adoption of the final plan.

Public Meetings

Public meetings were held on July 7, August 3, and 30, 2005. The meetings were rotated between the two incorporated communities. The first public meeting was held in Baker, the second in Plevna, and the final public meeting was held Baker.

The first meeting was announced in an article about the initiation of the project run in the Fallon County Times. The second and third meetings were also noticed in the Times with one or more articles and photographs. The articles explained the purpose of the meetings, the planning schedule, the topic for the upcoming meeting, and provided contact information for questions or comments. Following each meeting, the paper printed an article about the meeting to inform people who may have missed the meeting and to encourage future involvement. Meetings were noticed on the newspaper's electronic calendar as well. Following the first meeting, KFLN/KJJM, the local radio station granted an interview to the contractor to talk about the plan and how to get involved.

The two meetings held in Baker took place at the Senior Citizen's Center located on Highway 12. The meeting in Plevna occurred at the Fire Station. The meetings were scheduled over the dinner hour and a light meal was provided by the county to encourage attendance. Meeting sign-in sheets are provided with the agendas, notes, and news releases at the end of this chapter.

Meetings were facilitated by the planning consultant according to an agenda developed prior to each meeting. Each meeting began with an explanation of the purpose of the CWPP/PDM Plan and the planning process. Meetings were focused and time spent efficiently. Following each meeting, a meeting summary was prepared to document the decisions reached and input gathered.

Document Review

Draft chapters were prepared according to a schedule for deliverables in the contract and upon completion, provided to the County Disaster and Emergency Services Coordinator.

Following the final public meeting at the end of August, a draft of the entire document was assembled and provided to the county for public review. The draft document was made available at the town of Plevna Fire Hall (Plevna has neither a town hall nor a library), at the Baker Fallon City-County Courthouse, at the county commissioners and DES offices, and the Baker public library. The BLM, DNRC, and the state DES representative were also provided with copies. The comment period was open for 30 days, from September 12 through October 12. The availability of the draft document was announced in the Fallon County Times.

Following incorporation of the comments received, the plan was finalized. Draft resolutions were prepared for the town of Plevna, the city of Baker, and Fallon County for adoption and approval of the plan. These signed resolutions can be found behind the Executive Summary at the front of the plan.

Briefing Paper
Correspondence
Interview Form

Fallon County
Community Wildfire Protection and Pre-disaster Mitigation Plan
Briefing Paper, August 2005

What is a CWPP/PDM Plan?

A CWPP/PDM plan is being prepared to make the county and its communities more disaster-resistant and less vulnerable to property damage and loss of life from a natural disaster. The plan is being funded by the Bureau of Land Management with a small county match, and will meet requirements of the National Fire Plan and the Federal Emergency Management Agency (FEMA.) Once the plan is done, the county will be eligible to compete for funds to carry out projects identified in the plan that are beyond local resources, and will also be eligible to receive post-disaster assistance if a disaster occurs. The plan must be adopted by the county, Baker and Plevna if they wish to participate and/or be eligible for grant funds or disaster assistance.

What is in this plan and how was it prepared?

The plan contains hazard assessments that describe historical occurrences and vulnerability to hazards, and estimates the potential losses should a disaster occur. The plan also contains mitigation goals, objectives, and projects to address the hazards that have been identified. The plan has been prepared by a contractor, Barb Beck. Three public meetings are being held to gather input for the draft plan. These meetings are being held in Baker and Plevna.

What is the schedule for this plan?

The planning process was initiated in early summer of 2005. Research has been completed and a draft document will be available in September. The draft plan will be available in Plevna, the county-city courthouse, and the Baker library for public review. Comments will be accepted for 30 days. Following the 30-day comment period, the plan will be finalized and the incorporated communities and county will be asked to adopt it. The state Disaster and Emergency Services division will review the plan, ensure that it meets legal requirements, and forward it to FEMA for final approval.

How do we and our constituents offer input?

Input is welcome at any time during the process until the plan is adopted by the governing bodies. The availability of the draft will be announced in the Fallon County Times and comments can be made by any interested individual, organization, or government on the draft. Comments can be submitted by phone, in writing, or by e-mail to Barb Beck, P.O. Box 870, Red Lodge, 59068 or barbbeck@cablemt.net, or 446-3628.

Clayton Horning
Mayor, City of Baker
P.O. Box 1512
Baker, MT. 59313

June 20, 2005

Dear Clayton:

As you may be aware, Fallon County recently initiated the process to develop a Community Wildfire and Pre-Disaster Mitigation Plan, or PDM Plan. The county is preparing this plan on behalf of the county, Baker, and Plevna. The reasons for doing the plan are to make the county more disaster-resistant, to be eligible for post-disaster assistance from FEMA in the event of a natural disaster, and to be eligible for project funds to carry out projects identified in the plan. Although Baker is not required to adopt the plan, any local government that wishes to be eligible for project and post disaster funds will need to adopt the plan.

Three Steering Committee/public planning meetings will be scheduled over the coming three months to gather input. The first meeting will take place on Thursday, July 7, at 6 p.m. at the Senior Citizen's Center in Baker. We hope to hold the second meeting in Plevna in late July and the final meeting in Baker in August. At these meetings, natural hazards and critical infrastructure will be identified, goals drafted, and projects identified.

A Steering Committee consisting of the County LEPC and other stakeholders will be guiding the process. You will be invited by the commissioners to sit on the Steering Committee. We want to ensure that Baker has every opportunity to have projects included in the plan, and in fact, FEMA requires that each signatory to the plan have at least one project specifically identified. We hope that you or your representative will be able to attend one or more of the three brief meetings, and bring forward any projects you would like to see considered for future funding.

Please give me a call at 446-3628, if you have any questions Clayton. I'm looking forward to meeting and working with you.

Sincerely,

/s/ Barb S. Beck

BARB S. BECK
Beck Consulting

Gary Thielen June 20, 2005
Mayor, Town of Plevna
Plevna, MT. 59344

Dear Gary:

As you may be aware, Fallon County recently initiated the process to develop a Community Wildfire and Pre-Disaster Mitigation Plan, or PDM Plan. The county is preparing this plan on behalf of the county, Baker, and Plevna. The reasons for doing the plan are to make the county more disaster-resistant, to be eligible for post-disaster assistance from FEMA in the event of a natural disaster, and to be eligible for project funds to carry out projects identified in the plan. Although Plevna is not required to adopt the plan, any local government that wishes to be eligible for project and post disaster funds will need to adopt the plan.

Three Steering Committee/public planning meetings will be scheduled over the coming three months to gather input. The first meeting will take place on Thursday, July 7, at 6 p.m. at the Senior Citizen's Center in Baker. We hope to hold the second meeting in Plevna in late July and the final meeting in Baker in August. At these meetings, natural hazards and critical infrastructure will be identified, goals drafted, and projects identified.

A Steering Committee consisting of the County LEPC and other stakeholders will be guiding the process. You will be invited by the commissioners to sit on the Steering Committee. We want to ensure that Plevna has every opportunity to have projects included in the plan, and in fact, FEMA requires that each signatory to the plan have at least one project specifically identified. We hope that you will be able to attend one or more of the three brief meetings, and bring forward any projects you would like to see considered for future funding

Because you wear (at least two hats) for Plevna, I will also need a small amount of your time as Fire Chief. I'd like to call and do a phone interview with you prior to the meeting on the 7th. I'll try and catch you in the evening to see when we could set up a time to talk. Please give me a call at 446-3628 if you have any questions Gary. I'm looking forward to meeting and working with you.

Sincerely,

/s/ Barb S. Beck

BARB S. BECK
Beck Consulting

Fallon County CWPP

Fire Chief Interviews

Name_____

District_____

Phone_____

Date_____

1) What is your ISO rating for structural fires? _____
2) Rate your ability on a scale of 1-10 (with 1 being very able and 10 being unable) to put out grass fires. _____
3) Rate your ability on a scale of 1-10 (with 1 being very able and 10 being unable) to fight wildland fire. _____
4) What communities and/or significant assets or infrastructure do you protect?
5) Describe the wildland fuel, flammability, terrain and other features that contribute to the severity of wildland fire incidents around the assets and communities you protect.
6) What areas are you most concerned about now and why? (access, water sources, etc.)
7) Are you aware of proposed development that will present challenges for fire protection? Where are they, what is proposed, and what is the challenge?
8) Have you noticed any trends related to development or behavior that affect your ability to provide fire protection?
9) How many paid staff and volunteers do you have? _____

PROJECT KICK-OFF MEETING

(Agenda, Notes, Sign-in Sheet, News article)

Fallon County CWPP/PDM Plan
Kick-Off Meeting Agenda
June 13, 2005

Introductions

Overview

What is a Community Wildfire Protection/Pre-Disaster Mitigation Plan? Why do one? What is the planning process?

Contract

Review of contract deliverables
Discuss any county or contractor concerns
Execute contract

Coordination

Meeting logistics: Where to hold?
Meeting scheduling considerations: time of day, day of week
Set first public meeting date
Steering Committee
Communications during the project: How do the commissioners want to stay informed?

Getting to work!

What past major natural disasters and fires do you remember?
Looking ahead: What hazards are of most concern to you?
Information sources (local or county plans, maps, knowledgeable individuals, county records, etc.)
Media contacts: Who should I be working with?

Exchange contact information

Other items

Project Kick-off Meeting
Fallon County CWPP/PDM Plan
June 13, 2005

Introductions

Participants introduced themselves and signed in. In attendance: Don Rieger, Deb Ranum, Dennis Afrank, Sam Thielen, Norman Parrent, and Barb Beck.

What is a CWPP-PDM Plan and Why Do One?

Barb reviewed what a CWPP-PDM plan is and how preparing this plan will benefit the county, Plevna, and Baker. Beck explained that the plan would address the current situation, past occurrences of disasters, and develop goals and projects. Once the plan is completed the county will be eligible to compete for funds to complete projects in the plan and for post-disaster assistance from FEMA. Fallon County, Baker, and Plevna will all have the opportunity to adopt the plan. Once the local governments have adopted the plan, it will go to the state and then the Federal Emergency Management Agency (FEMA) for approval.

Contract

Barb gave an overview of what was contained in the proposed contract and provided a signed copy of her workers' compensation exemption. She then discussed briefly the tasks and deliverables stating that she would not invoice the county until tasks had been completed and products such as chapters and meeting notes were delivered. The contract was executed.

Coordination/logistics

The first meeting date was selected. The first meeting will be held at the Senior Citizens' Center in Baker, on July 7, at 6 p.m. The second meeting will be held in Plevna and the final meeting in Baker. Sam will develop a list of the LEPC and and Barb will prepare a letter of invitation.

The primary line of communication on the project will be between Sam and Barb. Sam will keep the commissioners appraised as needed and Barb will include progress reports on her invoices. The commissioners are welcome to see all the work products and hopefully participate in the meetings. Barb will be submitting news releases to the Fallon County Times before and after each meeting and after this kick-off meeting.

Recollections of Past Disasters

The commissioners, the DES Coordinator, and the District IV Representative recalled the following incidents:

- 1955 Flood of Highway 7 south of Baker
- 1950's Tornado (put combine in the lake, took Randash's roof)
- 1962 Baseball-sized hail
- 1964 Winter Storm
- 1970's Palm Ranch Fire (SW corner of the county)
- 1977 Winter Storm
- 1978 Winter Storm
- 1988 Wildfires between Plevna and Ismay, Long Pines
- 1993 Flooding during Joe, Montana Days that took Hoak Dam
- 1993-2005 Continuing drought
- Various years Dust Storms
- 2005 Flooding affecting county roads and bridges, fairgrounds roof

The commissioners and DES Coordinator stated that the things they were most concerned about related to potential disasters included: Winter storms, wind storms, H2S gas incidents, pipeline incidents, fire, hazmat exposure/chlorine spill, flooding especially in Baker, accident at Bearpaw Energy north of Baker, and railroad accidents.

Attendance Sheet

Activity Fallon Co. PDM/CWP Plan Kick-off Meeting

Location Baker **Date(s)** 6/13/05

Duration ____________

Name & Title	Affiliation	E-Mail Address & Phone#	Agency Use Only H	M	T
Name: [illegible] Title:	Fallon CO. DES	fcdes@midrivers.com 406-778-3237			
Name: [illegible] Title: [illegible]	[illegible]	[illegible]@midrivers.com 406-234-2809			
Name: Barb Beck Title: Beck Consulting.	Beck Consulting	446-3628			
Name: Dennis [illegible] Title: Commissioner	Fallon County	fcc@midrivers.com			
Name: Deb Ranum Title: F.C. Commission	Fallon County	406-778-7107 fallon cc@midrivers com			
Name: Ronald Riegir Title: F.C. Commissioner	Fallon County	406-778-7107 fallon cc@ midrivers.com			
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Rev. 4/23/03

Disaster Planning Underway for Fallon County

Friday, June 17, 2005
By

Fallon County has experienced a number of natural disasters over the years. According to Commissioner Afrank, just some of these include flooding in 1955, severe winter storms in 1964, 1977, and 1978, fires in 1988, and various tornadoes. Drought also remains a concern despite recent rains. A discussion of past disasters in the county occurred at the project kick-off meeting on Monday, June 13, between the county commissioners, Disaster and Emergency Services Coordinator, Sam Thielen, the Montana DES District IV Representative, Norman Parrent, and planning contractor, Barb Beck.

Each natural disaster has the potential to take lives--both human and livestock—damage and destroy property, and interrupt transportation and commerce. And, natural disasters are costly. For all of these reasons, Fallon County is joining other counties across the country in preparing a Community Wildfire Protection and Pre-Disaster Mitigation Plan. Although preparing the plan is not required, it will ensure the county is eligible for emergency relief funds from the Federal Emergency Management Agency (FEMA) should there be a natural disaster in the future. The project is made possible by funding from the Bureau of Land Management with a county match of 10%. The county match will be made up by the value of local participation in the planning effort.

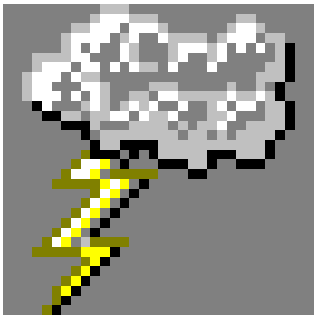
Beck Consulting out of Red Lodge, Montana, will be preparing the fire/disaster plan under the guidance of the Local Emergency Planning Committee (LEPC) and other interested citizens. The first public meeting is scheduled for 6 p.m. on Thursday, July 7, at the Senior Citizens Center. A total of three meetings to develop the plan will be scheduled in Baker and Plevna over the next four months and anyone interested in participating is encouraged to do so.

As a part of developing the plan, past disasters need to be documented and analyzed. “I’m really interested in hearing from long-time residents who have memories--even if they are just vague memories--of floods, wild fires, winter storms, or other natural disasters” stated Barb Beck. Anyone with information to share or questions about the project is encouraged to contact Beck at 446-3628, or Sam Thielen at 778-3237.

PUBLIC MEETING
Baker, Montana
July 7, 2005

(Flyer, agenda, meeting notes, sign-in sheet, news articles)

First Public Meeting
Baker Senior Citizen's Center
July 7, 2005



FALLON COUNTY
DISASTER PLANNING MEETING

Thursday, July 7
6:00 p.m.
Senior Citizen's Center, Baker

Open to the public.
Anyone with an interest is encouraged to attend and participate.

For more information, contact:
County Disaster Emergency Coordinator, Sam Thielen, 778-3233
Contractor, Barb Beck, 446-3628

Fallon County CWPP/PDM Steering Committee
July 7, 2005
Senior Citizens' Center, 6 p.m.
Meeting Agenda

Introductions

Community Wildfire/Pre-Disaster Mitigation Planning

- What is a CWPP/PDM Plan and why do one?
- What are the overall timeframes and schedule for the project?

Recollections

- Recollections of past natural disasters in the county (what, when, and where)
- Other resources to obtain this/related information?

Potential natural disasters

- Group brainstorm of natural hazards
- **Prioritize list of potential disasters**

Critical facilities and vulnerable populations

- What are the critical facilities and infrastructure?
- What are the vulnerable populations?

On-Going or Proposed Development

Wrap-up

- Next steps
- Questions and comments
- Adjourn

Fallon County CWPP/PDM Steering Committee
July 7, 2005
Senior Citizens' Center, 6 p.m.
Meeting Notes

Introductions

All participants introduced themselves. Barb Beck explained that she is the contractor hired by the county to prepare this plan.

Community Wildfire/Pre-Disaster Mitigation Planning

Beck explained that the purpose of the plan is to prevent disasters and/or minimize the losses associated with disasters that can't be prevented. The county is preparing this plan to prepare for potential disasters, to ensure they are eligible for post-disaster assistance and so that projects identified can compete for resources.

The plan will be developed on behalf of the county, Plevna, and Baker. Each of these entities will have the opportunity to adopt the plan and benefit as described above.

Three public meetings, of which this is the first, will be held. Between the meetings, the contractor will be conducting research on past occurrences as a way to anticipate what could happen in the future. The second meeting will include presentation of the research and goal setting. At the final meeting, projects will be identified and prioritized. Once the plan has been drafted, it will be made available for public review and then finalized. The local governments will be asked to adopt the plan and then it will go to the state and FEMA for approval.

The funding for the plan is provided by the Bureau of Land Management with a 10% county match. The match will likely be accomplished by crediting the time of those attending the meetings.

Recollections

Participants were asked to recall past natural disasters. They generated the following list.

Event	When	Where	Damages
Wildland Fire	Halloween 1999	County line with Carter County	
Tornado	Late 1990's	Ollie	
Fire	Late 1990's	Ekalaka, Carter County	Evacuated nursing home
Blizzard	1977-78	Baker/County	County roads closed 5 days
Drought	9 of last 12 years	County-wide	
Grasshoppers	1986	County-wide	Crops
Storm cell with tornadoes	June 6, 2005		
Flooding	June 29, 2005	Sandstone, Little Beaver Creeks	County road damage, 1 bridge lost, basements

Barb then listed the natural disasters that were mentioned in the Plevna History and O'Fallon Flashbacks.

Drought/grasshoppers: 1915, 1918, 1919, 1920's, 1931-38, 1993-04
Fires: 1988, 2004
Floods: 1907, 1913, 1955, 2005
Rain/hail/lightning/tornadoes: 1909, 1912, 1913, 1920, 1928, 1935, 1955, 1962
Winter Storms: 1906-07, 1909-10, 1911-12, 1916-17, 1991-20, 1926-27, 1935-36, 1937-38, 1951-52, 1964, 1977-78
Trainwreck: 1916 (Plevna)

Potential natural disasters

The group brainstormed all potential disasters. The natural disasters are listed first. The group then voted using dots to indicate the potential disaster they were most concerned about. The number of votes received by each disaster is provided in parentheses. Those with no number did not receive any votes. The state and BLM participants did not vote.

- Wildland Fire (7 votes)
- Flooding (Baker Lake, floodplains, sewage backup) (3 votes)
- Tornadoes (1 vote)
- Extended cold (3 votes)
- Extended heat
- Drought
- Winter storms
- West Nile Virus (4 votes)
- Mad cow disease
- Hazmat Incident (Railroad or vehicle) (10 votes)
- Explosion of a tank battery
- Disaster at the dispatch center serving four counties (1 vote)
- Major power outage (2 votes)
- Oil well blowout near Baker (1 vote)
- Bearpaw H2S gas incident (1 vote)
- Plane Wreck
- Train Derailment
- Grain elevator explosion or fire

Critical Facilities

The group identified the following critical facilities.

Fire stations (Plevna, Baker)
Dispatch Center
Hospital Complex
Health Department
Radio Station
Ambulance barn
City-County Courthouse and command center
Mid-Rivers Switching Station
Montana Dakota Utilities Plant
Exhibit Hall at the fairgrounds
Schools
Churches that serve as shelters
Water supplies
Hwy 12 bridges east and west of Baker
Hwy 12 bridge east of Plevna
Hwy 7 bridge north of Baker
Reynolds grocery store
Airport in Baker

Vulnerable populations

School children
Day care children
Medical population-hospital, nursing home
Deaf
Parkview retirement home
Prairie Manor retirement home
Quality Personal Care assisted living
Migrant workers in poor shelter

On-Going or Proposed Development

The only on-going development identified by participants was oil and gas field development across the county. One comment was made that some existing subdivisions in the Baker area do not have sufficient water supplies for fire suppression.

Wrap-up

The next public meeting is scheduled for Tuesday, August 2, in Plevna. The meeting will start at 5:30 p.m. Commissioner Ranum thanked the participants for their attendance and input.

FC 205

Attendance Sheet

Activity Fallon Co. CWPP/PDM Plan

Location Baker **Date(s)** July 7, 2005

Duration 1 hour

Name & Title	Affiliation	E-Mail Address & Phone#	Agency Use Only H	M	T
Name: Norman R Parmant Title: District Rep	PDRG / DES	04DES@ midrivers.com			
Name: Sam Thielen Title: DES Coordinator	Fallon Co. DES	fcdes@midrivers.com			
Name: Barb Beck Title:	Beck Consulting	barbbeck@cablenet.net 446-3628			
Name: April Bruha Title: QA Assistant	Fallon Medical Complex/County	alb-showers@yahoo 778-2502			
Name: RANDY HOENKE Title: FIRE Chief	Baker Fire	hoenke@midrivers 778-2167			
Name: GARY Thielen Title: Plevna Fire Chief	Plevna Vol. Fire Dept.	kthielen@midrivers.com 772-5721			
Name: Chuck Lee Title: Dispatch Supvr/911 Coordinator	Fallon County	778-7121 clee@midrivers.com			
Name: Judy McWilliams Title: Risk Manager - FMC	Fallon County Fallon Medical Complex	778-5114 jkmcwill@fallonmedical.org			
Name: Nikki Slaater Title: FMC Hosp Nurse	FMC	778-3331 ext175 nikinoregon@yahoo.com			
Name: Clayton Hornung Title: Mayor City of Baker	City of Baker	778-2938 hornungc@baker.k12.mt.us			
Name: Darren Nutt Title: News Director Newell Broadcasting	KFLN/KJJM	778-2398			
Name: David Espeland Title: CEO	FALLON MEDICAL COMPLEX	espe@midrivers.com 778-5101			
Name: Deb Ranum Title: Fallon Co Commissioner	Fallon County	falloncc@midrivers.com			
Name: Alice Kay Achivegeit Title: Fallon County Health Nurse	Fallon County Health Dept.	fchd@midrivers.com			
Name: Randy Sanders (~~DNRC~~) Title: Fire Program Manager	DNRC	rasanders@mt.gov 233-2904			
Name: Dena Lang Title: Fire Mitigation/Education	BLM	dslang@mt.blm.gov 233-2907			
Name: Desiree Beitsch Title:	Fallon Co. Planning Office				
Name: Title:					
Name: Title:					

Pre-Disaster meeting held

Friday, July 15, 2005
By

The first meeting to develop the county's pre-disaster mitigation (PDM) plan took place on Thursday, July 7, at the Senior Citizen's Center in Baker. Fifteen individuals including the mayors of Plevna and Baker, County Commissioner Ranum, state and local disaster and emergency services, representatives of the hospital, public health, dispatch center, radio station, and the Bureau of Land Management among others were in attendance. Meeting participants took the first steps in the planning process by identifying potential natural and other disasters that could occur in the county and then prioritizing those of most concern. The highest ranking potential disasters included a hazardous material incident, wildfires, flooding, extended cold periods, and tornadoes. Other concerns were West Nile virus, a disaster affecting the dispatch center, a major power outage, and oil well blow out, and an incident involving Bearpaw Energy.

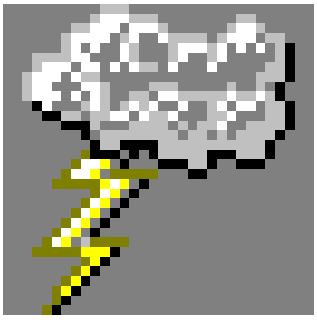
"A PDM plan is just a long-winded way of saying that we need to think about possible disasters ahead of time and do what we can to prevent them" explained County Disaster and Emergency Coordinator, Sam Thielen. The contractor hired to develop the plan. Barb Beck of Red Lodge, pointed out that "Preparing the plan is a requirement for getting emergency funds from the Federal Emergency Management Agency if we have a natural disaster in the county in the future." In addition, developing the plan will make the county eligible for state and federal funds to do projects that could prevent problems later.

The pre-disaster mitigation planning effort will be combined with the development of a wildfire protection plan. According to Beck, "We realize that we can't prevent natural disasters from occurring, but the idea of this effort is to be prepared for them so injuries and losses are minimized" stated Beck, "For example, according to the family histories in O'Fallon Flashbacks, Fallon County has had a number of fatalities from lightning over the years. Obviously we can't stop the lightning, but maybe a life could be saved by simply making people more aware of what to do in an electrical storm."

The next planning meeting is scheduled for Tuesday, August 2, at 5:30 p.m. at the Plevna Fire Hall. The meetings are open to the public. Anyone with questions about the project is encouraged to contact Barb Beck at 446-3628 or Sam Thielen at 778-3233.

PUBLIC MEETING
Plevna, Montana
August 2, 2005

(Flyer, agenda, notes, sign-in sheet, news articles)



FALLON COUNTY
DISASTER PLANNING MEETING

Tuesday, August 2
5:30 p.m.
Fire Hall, Plevna

Open to the public.
Anyone with an interest is encouraged to attend and participate.

For more information, contact:
County Disaster Emergency Coordinator, Sam Thielen, 778-3233
Contractor, Barb Beck, 446-3628

FALLON COUNTY
CWPP/Pre-Disaster Mitigation Plan
Public Meeting Agenda
August 2, 2005

- **Welcome and introductions**

- **Recap:**
  Why do a CWPP/PDM Plan?
  What is in the plan?
  Products of first meeting

- **Risk evaluation and hazard assessment**
  What did the research related to the identified hazards show? What goals might be appropriate based upon the research?

- **Develop goal statements**

- **Preliminary project ideas**

- **Wrap-up**
  Comments/questions on meeting
  Review schedule
  Next steps, next meeting

FALLON COUNTY
CWPP/Pre-Disaster Mitigation Plan
Public Meeting Notes
August 2, 2005

Welcome and introductions

Barb reviewed the agenda. Participants knew each other.

Recap

Why do a CWPP/PDM Plan? The county is preparing the fir and pre-disaster mitigation plan to be prepared ahead of time for potential disasters, to be eligible to compete for project funds, and to be eligible for post-disaster assistance. What is in the plan? The plan contains hazard profiles and a risk assessment including potential loss estimates, and mitigation consisting of goals, objectives, and projects.

At the first meeting held July 7, hazards, critical facilities, and vulnerable populations were identified.

Risk evaluation and hazard assessment

Barb summarized her research between the first and second meetings. The hazards identified at the first meeting were grouped into the following categories; assets, disease, drought, fire, flooding, hazardous materials-transportation, summer storms, transportation, and winter storms. The participants then guessed at the number of several types of incidents based upon past occurrences. From this exercise it was learned that state and federal data bases were not accurate on a number of items; cases of West Nile virus (group believes that there have been five cases and one fatality), number of oil well blowouts (three were recalled), and number of hazmat spills (the group thought the reported number, 22, was much lower than actual.) Interesting facts, frequency of occurrence, and vulnerability were highlighted for each of the hazard categories listed above and additional incidents were recalled. Data gathering on wildland fire incidents has not yet been completed.

Based upon past occurrences, summer storms have been the most frequent natural disaster in the county. Summer storms occur approximately twice every year and lightning has caused four deaths in the county. Winter storms occur approximately once every other year. Drought occurs approximately one out of every 5-8 years. Flooding and large wildfires each occur approximately once in ten years. These hazards and concern about the continued operation of the dispatch center were the hazards the group decided goals were needed to address.

Goal statements and preliminary project ideas

1) Mitigate the potential loss of life and property from flooding.

Preliminary project ideas: enforce existing floodplain regulations in Baker, Making information on floodplain requirements available to the public, handle floodplain issues consistently, protect county roads, address issues of spillway maintenance and drainage in Baker

2) Protect people (firefighters and the public) from injury or loss of life due to wildland fires.

Preliminary project ideas: Training for responding to hydrocarbon incidents, developing a mock-up training facility (with oil and gas and other scenarios), create defensible space around structures near CRP land, identify and map potential fuel break locations, place above ground water storage tanks out in county, develop dry hydrants, implement E911 reverse call-up function, develop GIS capability and fire/fuels layers, switch all equipment over to DNRC standards, purchase and install additional monitor guns on Plevna and Baker apparatus, and obtain navigation systems for each ambulance.

3) Minimize damage and loss of life from summer storms.

Preliminary project ideas: increase early warning by placing a siren in Plevna and an additional siren in Baker, purchase and distribute additional weather radios, provide severe weather classes for school children, improve coverage of weather events in the county.

4) Be prepared for winter storms.

Preliminary project ideas: early warning, education, obtain a back-up power source for Plevna.

5) Monitor drought conditions.

Preliminary project ideas: Install remote drought monitoring equipment to gather data and document situation.

6) Operate the dispatch function even if present location becomes inoperable.

Preliminary project ideas: Establish back-up EOC in Plevna.

Wrap-up: The next meeting is scheduled for Tuesday, August 30, at 6 p.m. in Baker at the Senior Citizen's Center.

FC 205

Attendance Sheet

Activity Fallon Co. Fire + PDM Public Meeting

Location Plevna **Date(s)** 8/2/05

Duration 2 hours

Name & Title	Affiliation	E-Mail Address & Phone#	Agency Use Only H	M	T
Name: Norman R Parnell Title: District Rep	DNRC/DES	Parnell.Norman@mt.gov 406-234-2809			
Name: Lola Thielen Title: ~~Mayor~~ Citizen	Citizen	406-772-5866 406-772-5866			
Name: Chuck Lee Title: 911 Coordinator	FC Dispatch Dep DES	406 778-7121 cleeemidrivers.com			
Name: Sam Thielen Title: DES Coordinator	Fallon County	fcdes@midrivers.com 406 778 3233			
Name: GARY Thielen Title: MAYOR / PLEVNA Fire Chief	Town of Plevna Plevna Fire Dept	kgthielen@midrivers.com 406-772-5721			
Name: Barb Beck Title: Contractor	Beck Consulting	446-3628			
Name: Randy Sanders Title: Fire Program Manager	DNRC	233-2904			
Name: Dena Lang Title: Fire Mitigation/Education	BLM	dslange.mt.blm.gov 233-2907 / 853-0274			
Name: Matt Thielen Title: Plevna	Citizen	772-5866			
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Disaster meeting planned

Thursday, July 28, 2005
By

“I remember the drought of 1919, then an early winter. We had blizzards and lots of snow. The folks sold most of their cattle because they didn’t have enough hay to winter them,” recalled Anna Klauzer Malenovsky in O’Fallon Flashbacks. Research into past disasters is just one part of the planning process the county is going through to prepare a pre-disaster mitigation plan. This research is being coupled with the identification of hazards of concern to current county residents in an effort to identify what can be done to protect people and property from future disasters.

The first public meeting of the planning process held in July, participants recalled previous disasters in the county such as fires, tornadoes, blizzards, floods, drought and grasshoppers. Attendees also told the planner that the natural hazards they were most concerned about for the future were hazardous material spills or releases, wildfires, West Nile Virus and flooding.

The next planning meeting is scheduled for Tuesday, Aug. 2, at 5:30 p.m. at the Plevna Fire Hall. At this second of three meetings, participants will be asked to propose and agree upon some goals that could help protect against future disasters. A light supper will be provided. All meetings are open to the public and anyone with an interest is encouraged to attend.

The plan is being written by Barb Beck of Red Lodge. According to Beck, “The folks who live in Fallon County will determine what goes in the plan. I’m just here to do the research and pull it all together.” Fallon County, the city of Baker, and the town of Plevna will be approving bodies for the plan which is being developed as part of a statewide effort to protect people and property from disaster. Similar planning efforts are underway in neighboring Prairie and Wibaux Counties. Custer County recently completed its plan.

Anyone who would like more information about the plan or would like to give input is encouraged to contact either County Disaster and Emergency coordinator Sam Thielen at 406-778-3233 or Barb Beck at 406-446-3628.

Goals identified to prepare county for disasters

Wednesday, August 10, 2005
By

Representatives from the BLM, DNRC, Plevna Fire Department, Plevna, Fallon County Dispatch Center and county and state Disaster and Emergency Services along with two citizens gathered Aug. 2 in Plevna to come up with ideas about what can be done ahead of time to minimize losses from disasters. The effort is part of the planning process to produce a county fire and pre-disaster mitigation plan. The county is preparing the plan to protect people, property and infrastructure from the inevitable natural disasters that can occur here including wildfire, floods, winter storms, summer storms, and drought. Goals and a preliminary list of projects were developed to address each of these hazards, and to provide for the continued operation of the county-city dispatch center in the event of damage to the facility.

Participants had knowledge of a number of events that had happened in the county that are not found in the state and federal data bases, specifically cases of West Nile Virus, oil well blow-outs, and lightning fatalities of which there have been at least four. County DES coordinator, Sam Thielen, pointed out that coverage of the area by weather radar is poor and needs to be improved but this will require a very large investment. Most felt that education for citizens about what to do during summer and winter storms should be an important part of the plan.

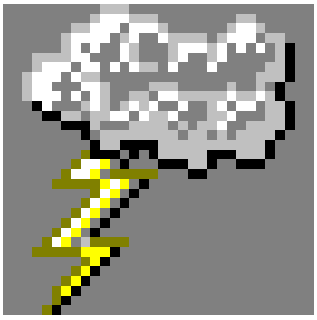
The contractor hired by the county to prepare the plan will compile the goals and projects developed during the meeting. The final public meeting of the planning process will be held at the Senior Citizen Center in Baker, Tuesday, Aug. 30 at 6 p.m. The meeting will focus on listing additional projects and prioritizing projects or actions that can be taken to achieve each of the goals. Anyone with an interest is encouraged to attend. A draft of the complete plan will be available for public review by the end of September.

For more information, contact Fallon County Disaster and Emergency Services coordinator, Sam Thielen, at 406-778-3233 or the project contractor, Barb Beck, in Red Lodge at 406-446-3628.

PUBLIC MEETING
Baker, Montana
August 30, 2005

(Flyer, agenda, meeting notes, sign-in sheet, news articles)

August 30, Public Meeting in Baker



FALLON COUNTY DISASTER PLANNING MEETING

Tuesday, August 30

6:00 p.m.

Senior Citizen's Center, Baker

Open to the public.
Anyone with an interest is encouraged to attend and participate.

For more information, contact:
County Disaster Emergency Coordinator, Sam Thielen, 778-3233
Contractor, Barb Beck, 446-3628

FALLON COUNTY CWPP/PDM PLAN
Public Meeting Agenda
Baker, Montana
August 30, 2005

Welcome/introductions

Quick Review

Purpose of PDM Plan
Where we are in the planning process
Tonight's tasks

Goals and Objectives

Goal statements, objectives
Review preliminary list of projects identified at last meeting
Review preliminary list of fire projects

Project identification

List additional project ideas under the objectives

Project Prioritization

Prioritize all projects in high, medium, and low bands

Wrap-up

Schedule for finalizing the plan
Where to find copies
How to comment
Thank you for your participation!

FALLON COUNTY CWPP/PDM PLAN
Public Meeting Notes
Baker, Montana
August 30, 2005

Welcome/introductions

Quick Review

Purpose of the CWPP/PDM Plan

Beck explained that the purpose of the plan is to prevent disasters and/or minimize the losses associated with disasters that can't be prevented. The county is preparing this plan to prepare for potential disasters, to ensure they are eligible for post-disaster assistance and so that projects identified can compete for resources. The plan is being developed on behalf of the county, Plevna, and Baker. Each of these entities will have the opportunity to adopt the plan and benefit as described above.

Where we are in the process

At the first meeting hazards of concern were identified as were critical facilities and infrastructure, and vulnerable populations. Following that meeting, Beck researched historic occurrences of each of the potential disasters in the county. At the second meeting held in Plevna, the group developed goals and projects to address the hazards. At this meeting we'll be working on refining the project list and prioritizing the projects.

The plan will be drafted following this meeting and made available for public review around mid-September. After a 30-day comment period, it will be finalized. The local governments of Fallon County, Plevna, and Baker will be asked to adopt the plan and then it will go to the state and FEMA for approval.

Tonight's tasks

Beck explained that the tasks for this meeting are to validate the goal statements and then review and edit the list of projects. Once the project list is done, all projects will be prioritized by the group as high, medium, or low.

Goals, Objectives and Projects

The contractor provided handouts with the draft goals, objectives, and projects.

The group reviewed the list of goals. No goals were added or deleted.

The group reviewed the preliminary list of projects for the PDM and Fire plan identified at second meeting held in Plevna. Two projects were added to goal one to address working with Baker and MDT on a proposed highway project and monitoring equipment for Baker Lake Dam and several of the project statement were edited. Three projects were added to the fire mitigation, one was deleted, and a number were reworded. These changes will be reflected in the draft plan to be prepared with this input.

Project Prioritization

Projects were prioritized as high, medium, and low. The group based their priorities on the following criteria.

1) Frequency or likelihood of a future occurrence
2) Potential for loss of life
3) Potential for property damage or economic impact

The agreed-upon priorities were captured by the contractor and will be displayed in tabular form in the plan.

Wrap-up

Following this meeting, the goal sections of the draft plan will be completed. Maps will be inserted and the draft printed. Copies should be available for public review by mid-September. Copies of the plan will be available at the county-city building, the Baker Public library, in Plevna, and the Disaster and Emergency Services office. Copies will also be provided to the BLM, DNRC, and state DES representative.

The attendees were thanked for their participation and encouraged to review the draft plan!

FC 205

Attendance Sheet

Activity Fallon Co. CWPP/PDM Meeting

Location Baker, MT. **Date(s)** 8/30/05

Duration 1 1/2 hours

Name & Title	Affiliation	E-Mail Address & Phone#	Agency Use Only H	M	T
Name: [illegible]	[illegible]	[illegible]			
Title: [illegible]		[illegible]			
Name: Barb Beck	Contractor	barbbeck@cablemt.net			
Title: Beck Consulting		446-3628			
Name: GARY Thielen	Town of Plevna	kgthielen@midrivers.com			
Title: MAYOR / Plevna Fire Chief	Plevna Fire Dept				
Name: Chuck Lee	Fallon Cnty Dispatch	clee@midrivers.com			
Title: Disp. Supvr.					
Name: DENNIS AFRANK					
Title: COUNTY COMMISSIONER	COUNTY				
Name: Judy McWilliams	Fallon Medical Complex	jkmcwill@fallonmedical.org			
Title: Safety Director					
Name: Randy Sanders	DNRC				
Title: Fire Program Manager		406 233-2904			
Name: Ryan Sundberg	BLM/Camp Crook Ekalaka	605 797 4506			
Title:					
Name: Donald Rieger	Fallon Co Commissioner	406-772-5820			
Title: Commissioner					
Name: [illegible]	Health Dept.	fchd@midrivers.com			
Title: County Health Dept. Dir.					
Name: [illegible]	DES Fallon	[illegible]			
Title: Fallon Co.					
Name: Deb Ranum	County				
Title: County Commissioner					
Name:					
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Rev. 4/23/03

Projects to prevent or lessen disasters sought

Thursday, August 25, 2005

The final public meeting for the county's fire and pre-disaster mitigation plan is scheduled for Tuesday, August 30. The meeting will be held at the Senior Citizen Center in Baker at 6 p.m. According to Fallon County Disaster and Emergency Services coordinator, Sam Thielen, "We're pleased this plan is almost done because it will really help the county be better prepared for future disasters."

At the first meeting held in early July, participants listed the natural hazards they were most concerned about. These hazards were summer storms including tornadoes and extended heat, blizzards and extended cold, wildfire, drought and flooding. In addition to the natural disasters, the participants listed a disaster with the dispatch center, an explosion or fire at a tank battery or grain elevator, an oil well blow out, hazardous material releases, mad cow disease, West Nile Virus, a train derailment, plane wreck, and a major power outage as concerns for potential disasters.

At the second meeting held in Plevna in early August, the contractor presented the results of her research into past occurrences of each of these types of events in Fallon County. Based upon this information, goals were developed and drafted into the following statements.

- Goal one: Mitigate the potential loss of life and property from flooding.

- Goal two: Minimize damage and loss of life from summer storms.

- Goal three: Be prepared for winter storms.

- Goal four: Monitor drought conditions.

- Goal five: Operate the dispatch function even if present location becomes inoperable.

- Goal six: Mitigate the potential loss of life, property and infrastructure from flooding.

- Protect people (firefighters and the public) from injury or loss of life due to wildland fires. This goal has subsequently been expanded.

At the third and final public meeting on Aug. 30, projects identified at the second meeting to accomplish these goals and additional project ideas will be listed and then prioritized. Project contractor, Barb Beck, stated, "We're hoping for good attendance at this last meeting because coming up with the project ideas is a really important piece of this plan and will make the county, Baker, and Plevna competitive for grant funds to do the projects."

Anyone with an interest in disaster planning is encouraged to attend the meeting. Following the meeting, the draft plan will be prepared and made available for public review at the Baker library, county-city courthouse, and in Plevna. The draft plan will be out by mid-September. For more information about the meeting or the plan, you can contact County Disaster and Emergency Services coordinator Sam Thielen at 406-778-3233 or planner Barb Beck at 406-446-3628.

Chapter III: Hazard Evaluation and Risk Assessment

This chapter identifies:

- Natural hazards to which Fallon County is susceptible
- Other-than natural hazards of concern to citizens
- Documented historical occurrences of these hazards
- Hazards' effects on the county's physical, social, and economic assets
- Which areas are most vulnerable to damage from these hazards
- Estimated costs of damage

Chapter 3 includes a short description of **methodology**; followed by a list of the **identified hazards** discussed in this chapter and rationale for why each hazard was included; detailed profiles of each hazard type including **historic occurrences** and **vulnerability and potential loss estimates**; and **assets** and **vulnerable populations** that could be affected by various hazards.

Methodology

Information on historical natural hazards and disasters in Fallon County was obtained from a number of sources. At the project kick-off meeting, the county commissioners, the District IV State DES Representative, and the county DES coordinator were queried about past natural disasters. At the first public meeting, participants provided their recollections on past disasters. The two definitive local histories, *O'Fallon Flashbacks* and the *Plevna, Montana-75 Years* were researched for accounts of disasters and losses.

In addition to these local sources, numerous state and federal websites and data bases were searched. These included information from the Bureau of Land Management, National Weather Services' National Climate Data Center, the Western Regional Climate Center, FEMA, SHELDUS, the Montana Drought Task Force, the Federal Railroad Administration, the National Response Center, and the Tornado Project among others. Information was requested from and provided by the Natural Resources Conservation Service, the Department of Natural Resources and Conservation, Montana Fish, Wildlife and Parks, the Montana Department of Environmental Quality, Montana Disaster and Emergency Services, and USDA Farm Home Administration and Farm Service Agency.

Existing written plans were reviewed as well. These included the Fallon County Cooperative Fire Management Plan, BLM-Miles City Fire Management Plan, Soil Survey of Fallon County, Montana Multi-hazard Risk Analysis and Hazard Mitigation Plan, Montana Drought Response Plan, and other counties' PDM plans. Fallon County does not have a current land use plan. A joint city-county growth policy has been initiated with a target completion date of December 2005.

Hazards were evaluated as follows:

1. Identify hazards that may occur. Hazards that may occur were identified through:
    a. Meetings and discussions with community leaders (county commissioners, town officials, and county DES Coordinator)
    b. The public meetings
    c. Review of hazard lists in the FEMA "How-to Guide: Understanding your Risks" and initial research on recommended websites
    d. Review of the State of Montana Multi-Hazard Mitigation Plan and Statewide Hazard Assessment
    e. Researching other plans, reports, and local histories

2. Prioritize the hazards and focus on the most prevalent. Hazards were prioritized at the 1st public meeting.

3. Profile hazard events. Using a variety of information sources this included:
    a. Identifying maps of the geographic extent of hazards that can occur in predictable areas (note that hazards with "predictable occurrence areas" were limited to flood hazards identified in Federal Insurance Rate maps).
    b. Obtaining data on historical occurrences—frequency, severity, and related damage--when available

Vulnerability and potential loss estimates were assessed as follows:

1. Identify the future potential for the hazard to result in damages. This was done primarily by looking at past occurrences and by considering factors that could potentially increase risk. Land uses (described in Chapter 1) are not anticipated to change dramatically in the foreseeable future, with the exception of continued oil and gas well exploration and development. Consequently, the analysis focuses on existing land uses and conditions of which oil and gas production is one.

2. Inventory assets and identify what might be affected by the different hazard events. This includes structures, operations important to the county's economy as well as vulnerable populations that could be particularly hard-hit by a disaster. Critical facilities and vulnerable populations were identified at the 1st public meeting, when participants were asked to identify important features of their community that could potentially be affected by a disaster. Inventories of critical facilities included location and replacement value, identified using tax information, and via conversations and information provided by representatives of the various facilities. Because most of the natural hazards in Fallon County can essentially occur anywhere, the inventory of assets is included as a

separate section in this chapter. For the flood hazard, for which specific maps are available, more detailed asset information is included in the Flood section of this chapter.

3. Estimate losses. Generally, losses were estimated using information from past events, since most hazards in Fallon County can vary in location and extent. In cases where there is little or no historical damage information in terms of dollar cost for the county, information may include costs from other locations.

Project Kickoff Meeting with County Commissioners
Don Rieger, Deb Ranum, Dennis Afrank, Sam Thielen, and Barb Beck
(going around table from left--not pictured, Norman Parrent)

Identified Hazards

Table 3.1 includes potential hazards for Fallon County, how and why they were identified, how they were ranked at the public meeting, and where they are discussed in this chapter.

Table 3.1. Fallon County Hazards

Hazard	*How identified*	*Why identified*	*Where addressed*	*Public Mtg Rank*
Blizzard, extended cold	County Commissioners Public Meeting Historical Accounts Federal Disaster Declarations WRCC, SHELDUS past occurrences	Severe winter storms are not uncommon and have the potential to strand residents, and cause loss of human and stock lives, and property damage.	Winter Storms	4
Dispatch Center Disaster	Public Meeting	Fallon County provides dispatch services for four eastern Montana counties	Assets	5 (tied)
Drought (grass-hoppers, dust storms)	County Commissioners Public Meeting State and Federal Disaster Declarations Historical Accounts	Past droughts have been severe. The county has been in a drought for 9 of the past 12 years. Disasters have been declared. Drought has a strong economic impact on agricultural producers.	Drought	
Explosion/fire at tank battery or grain elevator	Public Meeting	Oil and gas is highly volatile. Oil and gas exploration and production is increasing. Consequences could be very serious in terms of loss of life.	Assets	
Extended heat	Public Meeting	The continental weather pattern produces extended heat in Fallon County. The elderly, young, crops and livestock are vulnerable to extended heat.	Summer Storms	
Flooding	County Commissioners Public Meeting Historical Accounts USDA Disaster Declaration FEMA Flood Insurance Study WRCC past events SHELDUS past events	Portions of Baker lie in the 100 year floodplain. Baker Lake is above the city of Baker. Flooding has occurred in the past and the recent past. Flooding is recounted in family histories.	Flooding	4 (tied)

Hail	County Commissioners Federal Disaster Declarations WRCC past events SHELDUS past events Historical Accounts Farm Service Agency	The county is subject to summer storms with tremendous energy. Crops are vulnerable to hail damage. Hail damage has been a common occurrence in past years.	Summer Storms	
Hazardous Material Release	County Commissioners Public Meeting	Hazardous materials are carried across the county by trains, vehicles, and pipelines. Bearpaw Energy near Baker has H2S gas.	Hazardous Materials, Trans-portation	1
Mad Cow Disease	Public Meeting	Impacts to agricultural sector would be great.	Disease	
Major Power Outage	Public Meeting	Heating in winter and cooling in summer is dependent on power. Economic health also depends on power.	Assets	4 (tied)
Oil well blow-out	Public Meeting	The county has many oil wells.	Assets	5 (tied)
Plane wreck	Public Meeting	Baker has an airport.	Trans-portation	
Train de-railment	County Commissioners Public Meeting Federal Railroad Safety data	De-railments have occurred in the past.	Trans-portation	
Tornadoes	County Commissioners Public Meeting Historical Accounts Federal Disaster Declarations WRCC past events SHELDUS past events Tornado Project	The county is subject to storms with tremendous energy. Tornadoes have produced damage in the past. Disasters have been declared in the county in part due to tornadoes.	Summer Storms	5 (tied)
West Nile Virus	Public Meeting	West Nile virus has caused loss of life (birds, horses, and humans) in Montana. Mosquitos are present in the county and this is a wet year.	Disease	3
Wildland Fire	County Commissioners Public Meeting State and Federal Disaster Declarations Historical Accounts WRCC past events SHELDUS past events	Fuels are flashy and fires fast-moving. Grass growth is exceptional this year. Fires have occurred in the county in past years. Ignition sources such as lightning are uncontrollable.	Wildland Fire (See Chapter V)	2

In the State and Local Mitigation Planning-how to guide, FEMA identifies seven major hazards to be considered in the development of a Pre-Disaster Mitigation Plan. Of these seven major hazards, three were identified as potential hazards in Fallon County--floods, tornadoes, and wildfires. The wildfire hazard is addressed in Chapter 5 of this document. The non-natural hazards are included in the following hazard profiles along with the natural hazards. The hazards are given in alphabetical order. Hazard priority is found in Table 3.1 above.

Assets

Extended power outages, oil and gas well explosions and blowouts, and the security of the county-city-regional dispatch center were all raised as asset-related concerns.

Power outages were identified at the public meetings as a serious issue for critical facilities and for general residents in Fallon County. Hazards most likely to cause serious damage to power and communications facilities are those that will affect overhead transmission. The key hazards are high winds and ice. Flooding can affect a pole or poles in a few places, but high winds and ice can take out hundreds of poles at a time.

Baker North Substation

Oil and gas well blowouts and explosions, and hydrogen sulfide gas releases were raised as hazards of concern during the first public meeting. A well blowout is caused by loss of control of the well. Loss of control of a well is usually a failure of personnel or equipment or both. If control can not be regained there may be a fire. Well pressure is controlled by drilling mud and secondarily by

blow out preventers required by the state for all drilling. Hydrogen sulfide or H2S can be part of the oil or natural gas stream resulting in “sour” oil or gas. This toxic gas has a strong odor. H2S is very dangerous, but dissipates readily with wind. H2S is heavier than air and will settle in low spots. Most of the oil production in Fallon County is from the Red River Formation. Most of the natural gas storage is in the Judith River Formation. (Tom Richmond, DNRC, Oil and Gas Conservation Division)

The 9-1-1 dispatch center located in the county-city courthouse in Baker serves not only Fallon County, but also Prairie, Wibaux, and Carter Counties. Dispatch Supervisor, Lee, is concerned about physical security of the center and vulnerability to natural disasters especially given the large geographical area served by and dependent upon the center.

Historic Occurrences

The Montana Public Service Commission does not maintain reliability records for utilities. In the future, regulated utilities will be required to maintain and report this information to the PSC (Kate Whitney, PSC) Power interruptions are tracked by utilities. According to Montana Dakota Utilities, the interruptions are tracked on a system-wide basis only so a history of interruptions for the Baker area was unavailable. (Steve Merrill, MDU)

In his 23 years with the Oil and Gas Conservation Division of the DNRC, Tom Richmond recalls only one incident in Fallon County. The incident was a blow out in a gas storage field occurring in approximately 1985. No injuries or deaths occurred. Participants at the second public meeting held on August 2, 2005, recalled two additional well blow outs, one in the 1960’s and one in 2004. No deaths occurred, but there was a hearing related injury associated with one of these blow outs.

The 9-1-1 Dispatch Center has not experienced any shut downs. (Chuck Lee, Dispatch Center Supervisor)

Vulnerability and Potential Loss Estimates

Fallon County is vulnerable to power interruption due to weather incidents such as freezing rain and high winds. However, according to MDU, truck mounted substations are available within the region so that power service can quickly be restored. Effects of an interruption of power include: business interruption, damage to equipment, structural damage from frozen or bursting pipes, and threats to public health from hypothermia if the outage occurs during the winter months or heat exhaustion and stroke if the outage occurs during hot summer temperatures.

The vulnerability of Fallon County to an oil or gas well blowout is minimal according to the Oil and Gas Division of the DNRC. Several factors contribute to this; Montana is generally a low pressure gradient at .433 psi/foot, two contol/protection systems would have to fail (drilling mud and the blowout preventer), and if/when a blowout were to occur, impacts are extremely localized, less than an acre. These factors in addition to property setback and OSHA requirements which create space between the general public, utilities, and public infrastructure mean that while it is possible a worker on site could be injured or killed, there is likely circumstance where the general public would be put at risk. (Tom Richmond, DNRC, Oil and Gas Conservation Division)

Fallon County is vulnerable to a disruption of service by the dispatch center from a terrorist incident, structural fire, or flash flood event. No historic damage estimates are available. Cost to replace the courthouse is just under $7 million.

Disease

West Nile virus and mad cow disease were identified as hazards of concern by residents of Fallon County. The potential exists for cases of both diseases in the county, although based upon the past cases of West Nile virus are more likely.

West Nile Virus can cause serious illness and death in humans, horses, and birds. "It should be presumed that the virus can be found anyplace in Montana." (http://www.dphhs.mt.gov) The following was extracted from the Montana Department of Health and Human Services website in May of 2005:

"West Nile virus is carried primarily by birds but can be transmitted by mosquitoes to humans, horses, and some other animals. The first documented case in the United States occurred in New York in 1999, and the disease has since spread westward into nearly every state. Only Alaska, Hawaii, and Washington have so far been virus-free" according to the U.S. Centers for Disease Control and Prevention (CDC).

Historic Occurrences

Montana's first confirmed case of West Nile virus involved a horse in Shepherd in late August 2002. In 2002, two people and 134 horses were diagnosed with the disease. Thirty-eight of the horses died. There were 55 infections confirmed in 14 counties in the state in 2004.

In Fallon County, there were six confirmed human cases and one death in 2003. There were no confirmed human cases in 2004 although there may have been unconfirmed cases. Eight to ten horses in the county were infected in 2004. (Alice Kay Schweigert, Fallon County Public Health) No cases had been reported in 2005 as of this writing, however, mosquitoes

tested positive for the virus in nearby Custer and Prairie Counties in early August 2005. (Billings Gazette)

According to the Centers for Disease Control, the first infection of mad cow disease or Bovine Spongiform Encephalopathy (BSE) probably occurred in the 1970's. Two cases of BSE were defined in 1986. There have been two instances where BSE has been confirmed in the United States. The first happened in December 2005 in the state of Washington. The second was confirmed in June 2005. Products from the infected cows did not enter the human food chain in either case. In January of 2005, two cases of BSE in cows in Alberta were confirmed by the Canadian Food Inspection Agency. (http://www.cdc.gov) There have been no confirmed cases of BSE in the state of Montana.

Vulnerability and Potential Loss Estimate

Based upon the past, Fallon County is more vulnerable to West Nile virus than mad cow disease and future cases can be expected. Public health departments at several levels of the government have been working to educate residents about reducing their risk of exposure to West Nile, but many of the occupations in Fallon County--agriculture and energy production—require workers to be outside. Potential losses as a result of West Nile cases in humans include lost wages, hospital expenses, and in the worst-case, death. In the case of horses, potential losses would include veterinary expenses and death. Even one future case of mad cow disease would have a large and serious economic impact on Fallon County. All livestock producers would be directly affected at least in the short term as would retailers and suppliers that depend on agriculture dollars. Expenses would be incurred from veterinary care and testing, dispatch and disposal of carcasses, and lost business.

Based upon past incidences, which in the case of West Nile Virus only extends back three years, the county can expect 1-2 human cases of the virus per summer and up to several cases in horses. The past may not be a good indicator for the number of cases to expect in horses however, since a vaccination to protect horses is available and in wide use. For this reason, the county may experience no West Nile cases in horses. Also based upon the past, the county can anticipate no cases of mad cow disease.

Drought

"Drought is an extended period of below normal precipitation which causes damage to crops and other ground cover; diminishes natural stream flow; depletes soil and subsoil moisture; and because of these effects causes social, environmental, and economic impacts to Montana." (Montana Drought Response Plan, 1995)

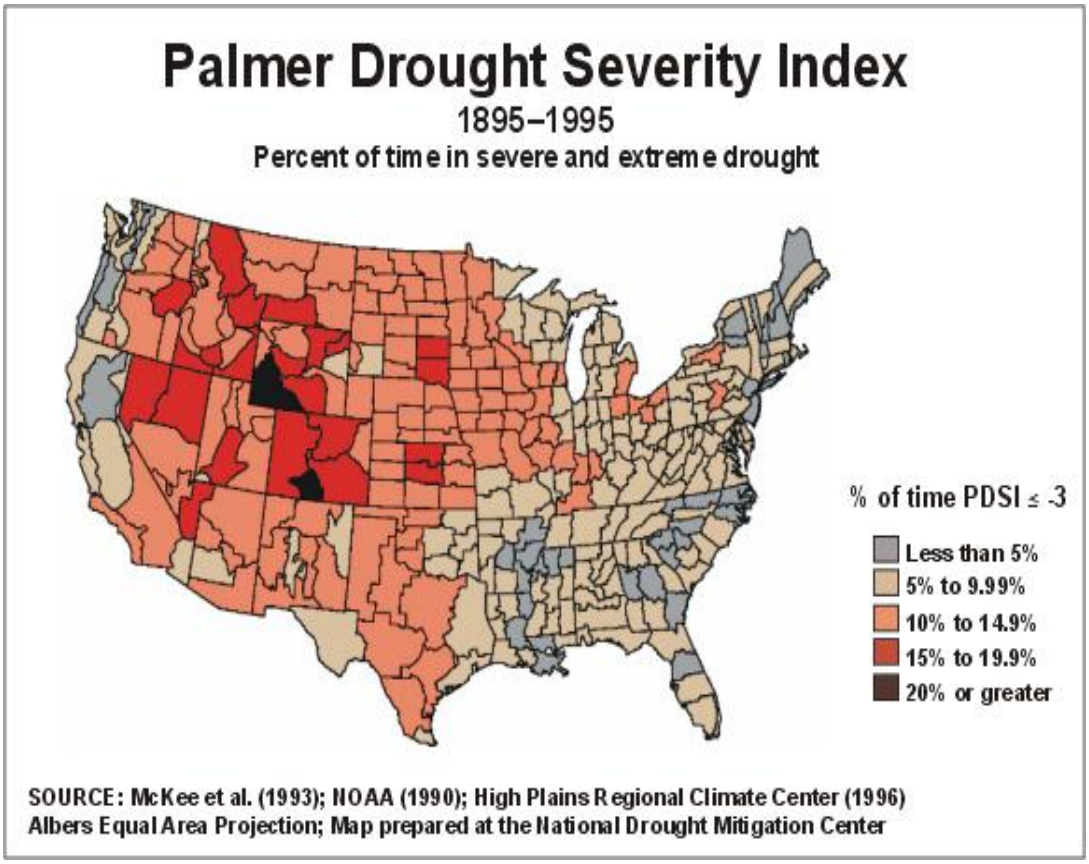
Drought can occur throughout the county.

Historic Occurrences

Legendary drought occurred in eastern Montana in the 1930s. Impacts were severe across not just Montana, but the entire Great Plains and led to changes in farm practices that have lessened the impacts of subsequent droughts, such as the one in the 1950s.

As shown in Figure 3.1, the area that includes Fallon County has been in severe or extreme drought 10 to 15% of the time between the years 1895 and 1995. Figure 3.2 is based on the Palmer Drought Severity Index (PDSI), which quantifies drought in terms of moisture demand and moisture supply.

Figure 3.1 Palmer Drought Severity Index



Annual average precipitation in Fallon County is between 10 and 19 inches. (Fallon County Soil Survey, USDA Soil Conservation Service) In Baker, the annual average is 13.74 inches per year (as measured between 1948 and 2004.) (Western Regional Climate Center)

Drought also brings other related hazards—grasshoppers, plant disease, wind erosion, and wildfires. Table 3.2 lists declarations related to drought (excluding wildfires, which are covered in Chapter 5 of this report).

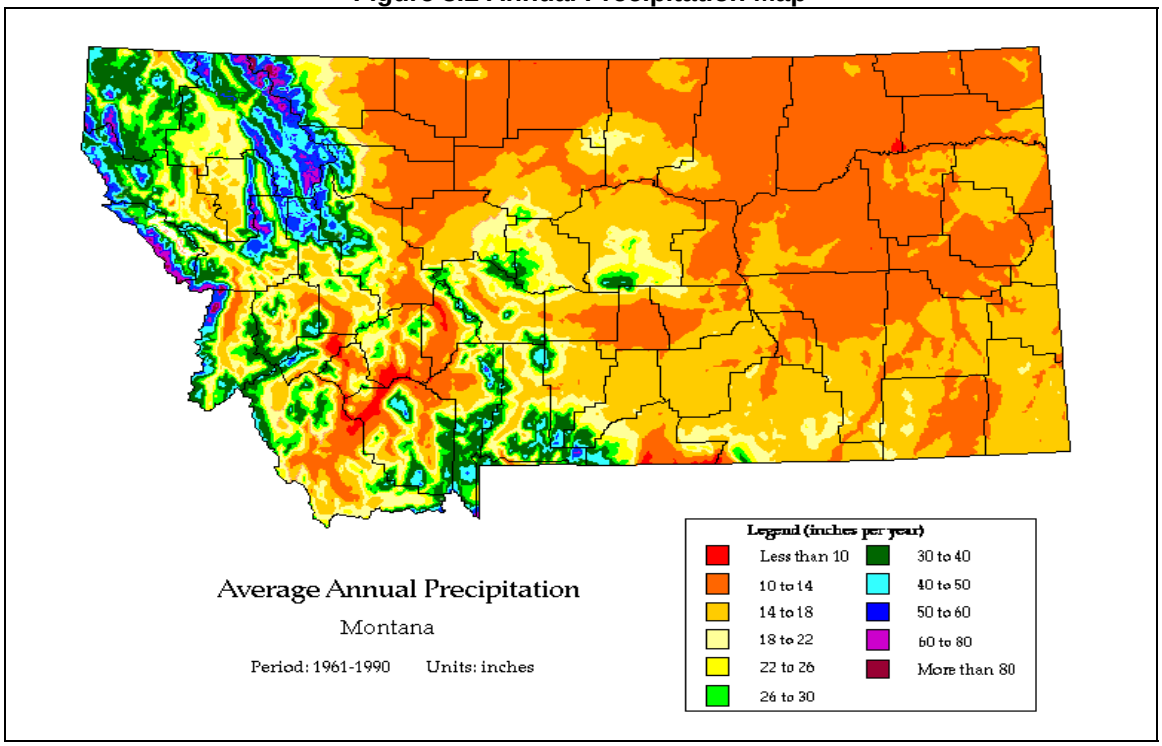
Table 3.2 Drought-related Disaster Declarations

Type	Period	Number	Notes
Presidential Declarations		0	Drought is excluded from presidential declarations*
USDA Secretarial Declarations	1998-2004	17	Includes drought, grasshoppers
FEMA Declarations	1974-2004	0	
State Declarations	1978-2004	0	

Source: USDA, FEMA

After years of drought, dams that provide water for livestock and other agricultural purposes have bee drying up as have some springs in the county. Drought conditions have dramatically affected the hay crop across the county.

Figure 3.2 Annual Precipitation Map



Source: Western Regional Climate Center, www.wrcc.dri.edu

Vulnerability and Potential Loss Estimates

Based on past history, there is continued probability that drought will occur in the future in Fallon County. Generally speaking, structures are not directly vulnerable to drought. Structures are however, vulnerable to wildland fire, a related outcome of drought. Please see Chapter V for the wildland risk assessment.

Fallon County is vulnerable to losses from drought because:

1) Drought affects commercial viability of agricultural production, and agriculture in the county is wholly dependent on dryland production.
2) Drought can cause effects other than agricultural losses, such as impacts to surface and groundwater sources that can affect people and wildlife.
3) Agriculture is an important sector of the county's economy.

Drought produces a complex web of impacts that spans many sectors of the economy. Direct effects of drought include reduced crop, livestock, and rangeland productivity, increased opportunity for insect and disease damage, increased fire hazard, reduced water levels, and damage to wildlife and fish habitat. Reduced income for farmers and ranchers results in indirect economic effects such as reduced business and income for local retailers, increased credit risk for financial institutions, capital shortfalls, loss of tax revenues and reduction in government services, unemployment, and out-migration.

The Montana Governor's Drought Report of May, 2004 referenced the economic and societal effects of drought:

> The state's biggest drought story remains the deepening socio-economic drought. The drought threatens to change the very fabric of Montana's rural communities and landscape. It is the final straw that can bankrupt 4th- and 5th-generation farmers and ranchers, placing the birthright of descendants of pioneer families on the auction block. And like the changing vistas, many of the well-established county agri-businesses are disappearing forever, along with other main street institutions.

There is no standardized method for tracking economic losses related to drought in Montana. Historical data for direct economic effects of drought include the following:

- In 1938, the last of the dust bowl years, grasshopper infestations in 17 eastern Montana counties caused an estimated $6,500,000 in damages. (State of Montana Multi-Hazard Mitigation Plan and Statewide Hazard Assessment, 2004.)

- Continued lack of moisture in 1985 resulted in a state-wide wheat crop that was the smallest in 45 years. For a typical 2500 acre farm/ranch, the operation lost more than $100,000 in equity over the course of that year. (www.state.mt.us/dma/DES/Drought.htm)

- In 2001, the Montana Department of Livestock estimated a decrease in Montana cattle herds of approximately 450,000 head of cattle, or 18%, due to drought. The loss estimate consisted primarily of cattle moved out of state for change of pasture (and includes those that were sold). (Drought Relief Activities of the Montana Department of Livestock and Montana Agricultural Statistics Service)

Drought does not directly affect structures and infrastructure in the same dramatic and immediately costly ways that other hazards, such as flooding, can and to which there are existing disaster aid responses, such as through FEMA. The primary effect of drought is on the land and the following analyses of potential effects on crops and livestock production is intended to provide an estimate of some initial costs associated with drought. Indirect cost effects, such as reduced business with local merchants, etc.), would be in addition to direct losses to agricultural producers. The combined direct and indirect costs of drought are estimated to be double that of the direct costs alone (Aber, DNRC).

Table 3.3 presents estimates for key crops in Fallon County comparing typical yields with drought year yields. The table also provides an economic loss estimate for these crops, which are only a part of the overall loss because the table does not include all crops in Fallon County.

Table 3.3 Drought Loss Estimation for Key Crops in Fallon County for 2004

Crop	*Normal Precip Year Yield Per Acre*	*Drought Year Yield (per acre)*	*3-year Average Price Per Unit*	*Number of Acres Planted*	*Economic Loss*
Winter Wheat	24	10	$3.35	19,968	$ 212,659
Spring Wheat	23	8	$3.60	19,972	$1,078,488
Barley	24	9	$2.10	2876	$ 90,594
Oats	33	10	$1.50	1425	$ 27,288
Alfalfa-forage	1.1ton/ac	.05	$75.00	25,176	$1,132,920
Alfalfa-grass mixes	.85 ton/ac	.01	$70.00	42,277	$2,485,888
Grass forage	.84 ton/ac	00	$70.00	10,063	$ 704,410
					$5,732,247

Source: USDA FSA Damage Assessment Report for Fallon County for 2004

Identifying the direct economic loss from drought for livestock producers involves many factors, most of which are difficult to track with existing systems. Over the past 7 years (1998-2004), cattle and calf numbers have been as low as 25,500 (1998) and as high as 29,400 (2004). (www.nass.usda.gov, Montana Agricultural Statistics 2004) In general over that time period, unlike many other eastern Montana counties, cattle numbers in Fallon County have risen slightly. Livestock numbers are not necessarily by themselves, a good indicator of economic impacts. For example, cattle numbers can remain relatively stable over a period, but ranchers can be experiencing any number of economic impacts that include:

- Reduced productivity of rangeland
- Forced reduction of foundation stock
- Closure/limitation of public lands for grazing
- Cost of supplemental feed and/or cost of moving to other locations with pasture
- High cost/unavailability of water for livestock
- Cost of new or supplemental water resource development (wells, etc.)
- Increased feed transportation costs
- Disruption of reproduction cycles (delayed breeding, more miscarriages, etc.)
- Decreased stocking rates
- Range fires

In summary, drought has the potential to cost Fallon County residents millions of dollars annually. The estimates above indicate an annual loss in 2004 of just under $6 million for some crop types alone. Considering losses to other crops and livestock, the direct costs could be many more millions of dollars annually.

Based upon the county's lengthy drought history, serious drought can be expected to occur once every eight years.

Flooding

"A flood is a natural event for rivers and streams. Excess water from snowmelt, rainfall, or storm surge accumulates and overflows onto the banks and adjacent floodplains." (FEMA, *Understanding Your Risks*).

Flash floods are events "occurring with little or no warning where water levels rise at an extremely fast rate." (FEMA, *Understanding Your Risks.)* Flash flooding can occur throughout the county. River flooding can occur along any of the three perennial streams, Little Beaver, Sandstone, and O'Fallon Creeks or numerous other small streams in the county. (Fallon County Conservation District)

Baker and Fallon County participate in the National Flood Insurance Program (FIP.) As reported in July 2005, only three flood insurance policies were in force in the county, all three in the city of Baker. The total amount of insurance in force at that time was $172,700. (http:fema.gov/nfip)

<u>Historic Occurrences</u>

A flash flood is reported by Martha Murphy in *O'Fallon Flashbacks* near Clark Ranch in June 1907. This local history also contains a photo of the 1913 Ismay flood and references to flooding in 1955. Flooding is mentioned fewer times than

drought, summer storms, tornadoes, and winter storms in the Plevna and O'Fallon histories.

Flood events recalled either by the county commissioners or at the public meeting included events in 1907, 1913, 1955, 1993, and 2005. In late June of 2005, heavy precipitation on top of already saturated ground caused widespread flooding in the Baker area and around the county. The cover photo for this plan is taken of that flood event.

Flooding in Fallon County has occurred from storm events and flash floods. There have been no state or FEMA declarations for flooding in Fallon County in the past 20 years. The USDA has declared Fallon County a disaster for flooding incidents that occurred in 1997, 1998, 1999, 2001, and 2002. (Disaster Declaration Summary, 1998-2004, USDA Farmers Home Administration)

According to data from the National Climate Data Center for events from1950 through 2004, there were five flash floods listed. These floods occurred in 1995, 1998 (2), 2001, and 2004. One of these flash floods was in Plevna, two were countywide, and two were in Baker. (www4.ncdc.noaa.gov)

Vulnerability and Potential Loss Estimates

Based on past history, there is continued probability that flooding will occur in the future in Fallon County although past floods have not been frequent. The following examines the vulnerability and loss estimates for the following specific flood hazards:

- City of Baker
- Dams and Dam Failure

Baker Lake, City of Baker in background

Maps prepared by FEMA indicate the area of the 100-year flood designation. The 100-year flood designation applies to the area that has a 1% chance on average of flooding in any given year. The 100-year flood is also referred to as the base flood, a national standard that has been adopted for the National Flood Insurance Program (NFIP). (FEMA, *Understanding Your Risks)* There is actually a range of floods that could occur, other than just the 100-year flood. For example, an "annual flood" occurs much more frequently and produces less damage than a 100-year flood. The 100-year flood would produce much greater damage but occur less frequently.

Table 3.4 provides estimates of flood losses, based on existing development. The flood plain area is in an established portion of Baker. Past trends indicate newer development on the fringes of the town, rather than in the town center. In addition to the costs shown in the table, there could also be losses from business interruption, and repair costs for sewage distribution, water supply, streets, and storm drain facilities if any repairs are necessary.

The National Climate Center data contains no damage loss estimates for the five flash floods listed. SHELDUS data contains damage reports for four flood incidents starting in1975. Property damage was reported at $1,668,420, most of that occurring in a flood on May 20, 1978. In August 1990, crop damage from flooding was a reported $ 877,193.

Table 3.4 Estimate of Potential Flood Loss, 100-year Flood Plain in Baker

Description	*Total County Market Value*	*Estimated % located in floodplain in Baker*	*Vulnerable to risk in Baker*	*50% loss*	*10% loss*
Residential improvements (69% of county pop resides in Baker)	$15,423,267	10	$1,064,205	$532,102	$106,421
Commercial improvements	$5,112,620	0	0	0	0
Railroad mileage	$8,316,108	0	0	0	0
Commercial furniture, fixtures	$1,305,959	0	0	0	0
Mobile homes (5 in floodway)	$3,012,376	2	$50,000	$25,000	$5,000
Total			$1,114,205	$557,102	$111,421

Sources: Montana Department of Revenue Property Classification Report for tax year 2004, FEMA Flood Insurance Rate Maps, Kit Anderson, Baker City and Fallon County Planner

Improvements located on rural land in the county are valued at $3,436,132. Only a very small percent, if any of these improvements would be located in any floodplains.

Baker Montana
Incorporated Boundary
FIRM Flood Map Areas

SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD

ZONE A	No base flood elevations determined.
ZONE AE	Base flood elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE A99	To be protected from 100-year flood by Federal flood protection system under construction; no base elevations determined.
ZONE V	Coastal flood with velocity hazard (wave action); no base flood elevations determined.
ZONE VE	Coastal flood with velocity hazard (wave action); base flood elevations determined.

FLOODWAY AREAS IN ZONE AE

OTHER FLOOD AREAS

ZONE X	Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

OTHER AREAS

ZONE X	Areas determined to be outside 500-year flood plain.
ZONE D	Areas in which flood hazards are undetermined.

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Dams and Dam Failure

Sandstone Lake Dam, West of Baker, June 29, 2005

The National Inventory of Dams lists 37 dams in Fallon County. Dams are classified as high, significant, or low hazard. The Lower Baker and Upper Baker Lake Dams are the only dams in the county classified as high hazard. The Lower Baker Dam was built in 1930, is 23 feet in height, and stores 1100 acre-feet. The Upper Baker Lake Dam was built in 1975, is 20 feet in height, and stores 3000 acre-feet of water.

Four dams (TR-Dry Duck, South Fork Cottonwood Creek, TR-Little Beaver Creek, and South Fork Coal Bank Creek, are classified as significant, and the remaining dams are classified as low hazard. High hazard dams are required to be inspected at least once every five years and to have an Emergency Operations Plan.

Table 3.5 Hazard Categories for Dams in Fallon County

Hazard Category	*Number of Dams in Fallon County*
High	2
Significant	4
Low	31
Undetermined	0
Total	37

Source: National Inventory of Dams (http://crunch.tec.army.mil)

Definitions: High: Where failure or misoperation will probably cause loss of human life. Significant: where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or impact other concerns. Low: Where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property

Sandstone Creek flooding, Baker, June 28, 2005

Table 3.6 summarizes some of the potential losses that might occur from flooding In Fallon County.

Table 3.6 Summary of potential loss impacts from flooding in Fallon County

Type	*Description*	*Notes*
Agricultural	Total crop loss, loss of livestock, reduced production	SHELDUS data indicates costs of $877,193 for a single incident in Fallon County
	Damage to equipment and buildings	
Residential	Potential loss or damage to homes	$48,000 (median value of owner-occupied housing unit in the county in 2000)
Businesses	Damage to buildings or other assets such as railroad track, interruptions to business	
Highway	Potential for inundation, weather-related accidents	Both major highways, 7 and 12 could be affected
Roads, culverts and bridges	Washouts and road damage, roads closed and	Costs could include road surface, culverts, and bridges

	potential for difficulty with emergency service response	
Emergency Services	Potential for difficulties in reaching people in need if roads are out	Could also have damage to facilities such as fire department, ambulance barn

Sources: SHELDUS data, U.S. Census Bureau

Based upon past incidents, flooding can be expected to occur approximately once every ten years in Fallon County. Major dam failures have not occurred in the past.

Hazardous Materials

Hazardous materials are chemical substances, which if released or misused, can pose a threat to the environment or health. Hazardous materials come in the form of explosives, flammable and combustible substances, poison, and radioactive materials. These substances can be released because of transportation accidents, pipeline releases or accidents, mechanical or human error at various facilities. (Montana Multi-Hazard Mitigation Plan) A hazardous material incident could occur anywhere in Fallon County.

As many as 500,000 products pose physical or health hazards and can be defined as “hazardous chemicals.” Nationwide, most discharges are from fixed facilities (52%) and discharges from mobile facilities (railroads, trucking, etc.) are about 18%. (Montana Multi-Hazard Mitigation Plan) Based on information received at the planning meetings, issues of concern for Fallon County include both fixed facility and transportation-related spills.

Transportation facilities in Fallon County include an airport, roads and highways, railroad, and pipelines. The airport is discussed under the transportation section of this chapter.

Fixed sources include non-mobile machinery, tank batteries, oil and gas wells, manufacturing plants, compressor stations, and numerous other fixed facilities. In Fallon County, fixed facilities include the anhydrous ammonia facilities, the waste water treatment facility in Baker, and smaller fixed facilities including gas stations, farm and ranch supply facilities, etc.

Tank Battery near Plevna

Historic Occurrences

The National Response Center is the national point of contact for reporting oil and chemical spills in the United States. Data for Fallon County from the National Response Center for the period 1990 to 2004 indicated a total of 26 reported incidents. According to the Montana Multi-Hazard Mitigation Plan, a large fixed facility spill resulted from overfill of a storage tank in Baker in June of 1993. The spill was 500 barrels of crude oil.

Vulnerability and Potential Loss Estimate

"Human error is the probable cause of most transportation incidents and associated consequences involving the release of hazardous materials." (http://hazmat.dot.gov/enforce/spills/spills/htm) Although the Montana Multi-Hazard Mitigation Plan classifies the county as "very low" on the hazardous material vulnerability index, Fallon County does have the potential for hazardous materials related accidents from both fixed and mobile sources.

Hazardous materials incidents can result in:

- injury or loss of life
- damage to structures (e.g., explosions)
- business interruption (e.g., blocked access or evacuations)
- environmental damage (air, water, land, vegetation, fish and wildlife)

Statewide, the most common type of transportation hazardous material incident is from highway crashes, followed by railroad incidents. (Montana Multi-Hazard Mitigation Plan) From 1995 through June 13, 2005, there were 135,849 hazardous material vehicle accidents nationwide that resulted in 107 deaths and 1,684 injuries. For the same period, there were a total of 9,813 railroad hazardous material accidents. Nine lives were lost and 1,375 individuals were injured. Nationwide in 2004, hazardous material highway incidents resulted in damages of over $39 million. Hazardous material railway incidents in 2004 caused over $11 million in damages nationwide. (http://hazmat.dot.gov/enforce/spills)

There are no automatic traffic recorders in Fallon County. Automatic recorders are maintained by the Montana Department of Transportation on Highway 12 east of Miles City and on Highway 7, one mile south of Wibaux. The highest average daily number of vehicles on Highway 12 east of Miles City in 2004 was 991 vehicles on Sundays in August. The daily average for the year was 639. Of this number, only 10.7% was large trucks. The highest average daily number of vehicles on Highway 7 south of Wibaux was 830 on Fridays in October. Large truck traffic makes up 11.3% of the traffic on Highway 7 south of Wibaux. (www.mdt.state.mt.us/tranplan/docs/atrbook_2004.pdf) Although vehicle accidents are the most common mode of transportation for hazardous material spills, the small percentage of large trucks traveling on the primary highways would suggest that the likelihood of a large-scale hazardous material vehicle accident involving hazardous materials is low.

The Billings Gazette cited statistics from the Association of American Railroads that 99.99% of hazardous materials that travel by rail make it safely. (February 28, 2005) Still the small percent can result in serious consequences. For example, an April 1996 rail crash in Alberton, Montana, resulted in the second largest chlorine spill in the history of the nation. One death and the evacuation of 1,000 people resulted. In February 1998, 48 rail cars rolled backward and downgrade into Helena. The crash caused an explosion that forced the evacuation of 2,000 people and cost $6 million. (Montana Multi-Hazard Mitigation Plan)

The National Response Center data base lists a total of 25 hazardous material incidents in the county since 1990. Of this number, 13 were from fixed sources, 10 were from pipelines, 1 was from the railroad, and 1 was from a mobile source. The materials involved in descending order of instances included crude oil, produced water, diesel oil, ethylene glycol, and natural gas. The spills and releases were from a variety of sources and locations. No pattern that would suggest particular prevention actions is evident.

Hazardous material events can vary from relatively small spills and leaks to major events. Clean-up and damages are typically borne by the responsible party, but in some cases, effects can be widespread and far-reaching with public

cost implications. A single incident can have serious effects. Economic costs could be in millions of dollars as illustrated above with the Alberton chlorine spill.

The Office of Pipeline Safety Hazardous Liquid Pipeline Operators maintains information on pipeline accidents nationwide. In 2005, 38 accidents resulted in 42 fatalities, 267 injuries, and over $1 billion in property damage. (http://ops.dot.gov/stats)

Based upon past occurrences, the county can expect to experience a hazardous material spill or release (from all sources) one to two times per year. The costs to clean up a spill range from a low of $50,000 (a 6-person hazamat team including vehicle and equipment plus security and traffic control, and a small number of minor injuries) to several millions of dollars if ground or surface water are contaminated or there are large-scale, long-term evacuations, or deaths.

Summer Storms

Extended heat, hail, and tornadoes were all identified as potential hazards of concern by residents and elected officials of Fallon County. Fallon County is subject to severe thunderstorms, hail, wind, and tornadoes throughout the entire area of the county.

A severe thunderstorm is a thunderstorm that produces tornadoes, hail 0.75 inches or more in diameter, or winds of 50 knots (58 mph) or more. (Montana Multi-Hazard Mitigation Plan)

A tornado is a violently rotating column of air in contact with the ground and extending from the base of a thunderstorm. Tornadoes are categorized by the Fujita scale based on the tornado's wind speed. The Fujita damage scale ranges from F0 with speeds less than 73 mph to F5 with estimated wind speeds greater than 261 mph. Damage can range from light at F0 (breaking tree branches and signs) to incredible at F5 (frame houses swept off foundations and automobile-sized projectiles flying in excess of 100 yards). (State of Montana Multi-Hazard Mitigation Plan and Hazard Assessment)

High wind events (exceeding 50 knots) can and do occur at any time of the year. When combined with snow, they create blizzard conditions and are discussed in the Winter Storms section.

Historic Occurrences

The National Climate Data Center indicates a total of 15 thunderstorm-wind events, 62 hail events, and 21 high wind events (not associated with thunderstorms or blizzards) in Fallon County between 1950 and September 30, 2004. The county commissioners recalled an event with baseball-sized hail in 1962. No injuries or deaths were reported in this data.

Fallon County was included in 12 USDA disaster declarations between 1998 and 2004 for events including high winds, tornadoes, excessive precipitation, hail, and extended heat. The county has not been declared a disaster by either the state or FEMA for summer storm-related incidents in the past 25 years.

The National Climate Data Center reports eight tornadoes and one funnel cloud in Fallon County between 1950 and 2004 with intensities of F1 to F2 on the Fujita scale. The Tornado Project also lists eight tornadoes in Fallon County over the years 1880 to 2000. The counts are not in exact agreement with the NCDC data as the first tornado recorded by the Tornado Project occurred in 1923, prior to the NCDC data compilation. Tornado project information is in agreement that there were no injuries or deaths resulting from these tornadoes.

Vulnerability and Potential Loss Estimate

Fallon County is not in the top ten counties in the state for vulnerability to tornado, extreme wind, and hail damage. (State of Montana Multi-Hazard Mitigation Plan and Statewide Hazard Assessment) But, thunderstorms, windstorms and related weather events will continue to be a hazard for the county for existing and future development.

Severe thunderstorms, high winds, tornadoes, lightning, and hail have the potential for:

- loss of life and injury
- property damage (major destruction from tornadoes, other damage to roofs, siding, windows, vehicles, and equipment from wind and hail)
- power outages and related effects
- crop damage (particularly from hail)
- livestock fatalities and injuries
- damage to utility infrastructure (power lines, etc.)

The Plevna and Fallon County histories make frequent mention of summer storms and the resulting damage. “In 1928 a tornado tore down the machine shed, but left a car inside without a scratch” according to Cristoph and Karoline Klos (Plevna.) Another reference by Henry Schell to perhaps the same tornado “In the summer of 1928, a tornado hit the farm and did a great deal of damage, tearing down some buildings completely.”

Two deaths from lightning strikes are recounted in the local histories. In the first incident as related by Lorene Kirschten, Mrs. Bud Martin was struck by lightning and killed while driving a wagon on May 25, 1909. The horses were also killed. Merl Scoles tells that in 1912, “our barn was struck by lightning.” In 1913, Alfred Beckman was killed by lightning while hauling a load of hay near Baker. Alfred was 33 at the time. (O’Fallon Flashbacks) Two additional deaths from lightning

were reported by participants at the second public meeting on August 2, 2005. These deaths were thought to have occurred in 1955 and the 1960's.

Wanda Holbrook Geving recounted in O'Fallon Flashbacks, "On June 23, 1912 we had a very severe hail storm in the evening. It broke the windows on the west the very first thing, so the wind and hail came in and the roof, which was flat kept going up and down. We were afraid it was going to fall in. Mother lost so very many little chickens in the storm. Their little coops blew away and left the hens and chickens out in the storm. Some of them lived but many died." Bleva Keech also told of a hailstorm, "A disastrous hailstorm hit on the 4th of July 1935 wiping out crops over a large area." George Schettler talked about what was most likely the same storm 4th of July hailstorm, windows were broken, roofs ruined and crops which were very good were laid low. He said "The next day the hail measured two feet or better in the draws."

SHELDUS data indicates property and crop damage from severe thunderstorms, hail, and wind events for the period 1975 through 2000 as follows. The accuracy of the figures is not known.

Table 3.7 Summer storm damage

Event Type	*Property Damage*	*Crop Damage*
Thunderstorm	$ 5314	$ 7142
Hail	$ 72,666	$ 266,666
Wind	$ 22,079	$ 3,345
Hail/wind	$ 26,770	$ 117,707
Tornadoes	$ 50,000	0
	$176,829	$ 394,860

Source: www.SHELDUS.org

Tornadoes, strong winds, and downbursts (microbursts) have the potential to completely destroy or significantly damage a building. Tornadoes have occurred in Fallon County and have the potential to take out any of the structures listed as critical facilities at the end of this chapter.

Because of the potential to completely destroy major facilities, tornadoes have some of the highest potential cost implications to the economy of any single hazard event. Loss/damage information is provided for only one tornado in the county in the SHELDUS data for the years 1975 through 2004. A tornado that occurred on July 22, 1979 caused $50,000 in damages. Losses could be in dollar amounts of millions if one or more tornadoes touched down in Baker and/or hit crops at a critical time of year. Losses from hail and thunderstorm events could also be over a million dollars for a single event.

Based upon past occurrences, Fallon County can expect to experience one to two major summer storms per year.

Transportation

Fallon County residents expressed concerns about the potential for both plane crashes and train accidents/derailments. Both of these types of incidents have occurred in the past and the potential exists for them to re-occur.

Historic Occurrences

Data obtained from the National Transportation Safety Board (www.ntsb.gov/ntsb/query) indicates that between January 1, 1988 and July 15, 2005, only one reportable accident occurred at the Baker Airport. On November 7, 1988, a Piper PA-18-150 was landing after a pipeline patrol flight. The pilot made a wheels landing and during the landing a wind gust estimated at 50 knots lifted the left wing. The right wing stuck gravel and the aircraft ground looped, nosed over and came to a rest inverted. Damage was reported to the cabin top, ruder, propeller, and wing spar. The pilot suffered minor injuries.

Baker Airport

In *Plevna, Montana-75 Years*, a deadly train wreck is recounted. Seven individuals were injured in the wreck that occurred in 1916, two of whom later died. Two engines were badly damaged and 16 railcars shattered. The accident was the result of a head-on collision between two freight trains in the rail yard at Plevna. News accounts of the time relayed that “Old railroad men say this wreck was the worst they’d ever seen.”

Railroad safety information is kept by the Federal Railroad Administration, a division of the Department of Transportation. Statistics on railroad accidents in Fallon County for the period 1975- April 2005 are shown in Table 3.8. None of the derailments produced injuries or fatalities. No locomotives were derailed.

Table 3.8 Railroad Accidents

Date	*Cause*	*Equipment Damage*	*Track Damage*	*Speed*	*# cars derailed*
8/12/1977	Human error	$1,730	$3,600	4 mph	3
12/1/1977	Equipment	$90,265	$18,200	42 mph	24
8/12/1978	Track	$100	$13,860	25 mph	3
7/20/1996	Equipment	$5,800	$12,215	33 mph	1
11/12/1998	Equipment	$560,000	$505,000	40 mph	28
1/16/1999	Equipment	$4,500	0	40 mph	1

Source: safetydata.fra.dot.gov

Vulnerability and Potential Loss Estimates

Each of these types of transportation incidents has occurred in the county in the past. The BNSF still moves freight through the county and the Baker airport supports are variety of private and government air traffic. For these reasons, Fallon County is vulnerable to these types of disasters in the future. Generally speaking, structures are not vulnerable to these two types of hazards.

Highway 7 Railroad Intersection, Baker

Based upon historic occurrences of these two types of transportation accidents, potential damages would be minimal however historical incidents may not be an accurate predictor of future damages due to escalating costs and the fact that past incidents were minor in nature.

No dollar figures were available for the plane accident, but damages likely did not exceed several thousand dollars. Private single engine planes that use the Baker Airport currently are valued between $50-100,000. Government and contract single engine air tankers used for aerial fire fighting are valued between $300,000 and $1 million. One helicopter is based at Baker, valued at approximately $200,000. (Roger Meggers, Airport Manager, 7/15/05) In a worst case scenario, two aircraft could be completely destroyed and there could be loss of life. The total damages for an accident of this nature would be several million dollars.

The most costly train derailment in the county in the recent past occurred in 1998 when 28 cars derailed. The cost of this incident exceeded $1 million in track and equipment damage. Although the Burlington Northern Santa Fe has a good safety record in Fallon County, another million dollar train wreck remains a possibility. A derailment that occurred at the track crossing with Highway 7 in Baker could affect commerce by blocking a major transportation route, and even emergency response since the fire station is located in close proximity, if the wreckage could not be immediately cleared. Train wrecks have the additional potential for hazardous material spills, serious injury, and/or loss of life, all factors which could exponentially increase the damages resulting from an accident.

Based upon past incidents, Fallon County can expect to experience one plane wreck every 20 years, and one train derailment every five years.

Winter Storms

Extreme winter weather events occur throughout Fallon County and include blizzards, extreme cold temperatures, heavy snow, ice storms, and freezes. Winter weather events have occurred in Fallon County from October through May. Average annual snowfall from 1948 through 2004 is 27.1 inches (as measured in Baker). The high annual snowfall of record was 52 inches in the winter of 1966-67. The lowest annual snowfall for this same period for years in which there was complete data was 8 inches in the winter of 1980-81 (Western Regional Climate Center)

A blizzard is defined as a storm with winds over 35 mph with snow and blowing snow reducing visibility to near zero.

Historic Occurrences

The earliest documented winter storm in eastern Montana was wide-spread and legendary. This storm cost the lives of large numbers of open range cattle. During the winter and spring of 1887 there were 40 days of blinding blizzard and snowstorm.

The local history, *O'Fallon Flashbacks* is replete with stories of blizzards.

- "That was a dreadful winter of 1906-07. It started snowing the 1st day of January and snowed every day the entire month." Martha Murphy

- "The winter of 1909-1910 was a hard and sad one for us. The snow was four to six feet deep and it was cold." Dessa Prouty Shepherd

- A band of sheep was killed by drifting snow in a May storm in 1909. Bob Kinsey

- "The winters of 1911, 1912, and 1919 were real hard, and after the winter of 1919 things were pretty bad. There was a great loss of livestock that winter." Gladys Burch Mosely

- "The winter of 16 and 17 was a bad one. They took some loss in cattle and had to haul around 120 loads of straw and hay. Weather was 30-40 below. Earl M. Hoke

- "1919 started out very good….however during the winter, the weather was bad and we had terrible snow storms and blizzards. Many cattle died." Ida Wild "Times were hard and in the winter of 1919 my folks lost many of their horses." Clarence Sipma

- "The snow was so deep in the winter of 1935-36 that the state plows were forced to leave the highway and make roads in the fields to avoid the hard, deep drifts." Janet Clocksens Enos

- "We had bad years again in 1935-36 and many cattle froze to death due to the long sub-zero weather. We went into the winter with a hundred head of cattle. Twenty-eight head of our cattle froze to death. Some were our milk cows. The following winter was another bad one and we lost another 18 head of cattle. These were the only winters that we lost cattle and those were the winters we never forgot. Evelyn Most Knapp

- "The winter of 1937-38 proved to be a corker with deep snow and bitter cold. There was a record that winter of 47 straight days of below zero weather, 30 and 40 below not uncommon." Ing Norman

- “I recall the winter of 1951-52 when the snow was belly-deep to a horse.” Bernice Schell Schenk

- Fallon County Commissioners recalled severe winter storms that had occurred in 1964, 1977, and 1978.

Information from the National Climate Data Center contains 22 severe winter weather incidents classified as blizzard (6), extreme cold (1), ice storm (2), heavy snow (12), or extreme windchill (1) for Fallon County from 1950 through 2004.

The Secretary of Agriculture declared three winter storm-related disasters in Fallon County between 1998 and 2004—two for severe storms, snow and ice (1999 and 2000), and for a freeze in 2001. Several other disaster declarations also list killing frosts among other causes. Neither the state of Montana, nor FEMA have declared Fallon County a disaster for winter storms in the past two decades.

Vulnerability and Potential Loss Estimate

Given the location of Fallon County in eastern Montana and weather patterns for the northcentral United States, winter storms, ice storms, and related colder weather events will continue to be a potential hazard for Fallon County.
Winter storm events in Fallon County can have a number of potential effects and related costs:

- Loss of human life and other human risks—hypothermia, stranded motorists, heart attacks during snow shoveling
- Damage to electric transmission facilities and power outages
- Livestock loss and stress (and increased cost of hay/feed)
- Crop losses and stress
- Road closures
- Snow removal and sanding
- Business interruption expenses
- Overtime loads on emergency and law enforcement personnel
- Vehicle accidents
- Other property damage (e.g., structural to buildings, water, sewer lines)
- Damage to ornamental and residential vegetation

In addition, the county faces challenges of winter storm related safety factors for isolated rural residents. Providing emergency services to persons located far from emergency operation centers and health care facilities can be hazardous for emergency personnel as well citizens.

Based on information from the SHELDUS Data Base, 12 winter weather events between 1975 and 2000 resulted in a total of $367,030 in property and $260,437 in crop damage (not adjusted for inflation). (http://go2.cla.sc.edu/sheldus/haz)

The SHELDUS Data Base calculates dollar losses on reported amounts and primarily relies on government assistance payment amounts and amounts that may be reported through other means (e.g., newspaper accounts). Consequently the cost estimates do not include costs that may be paid by private individuals or private insurance companies unless those were publicly reported.

In summary, winter storms and related events can be costly in terms of human health and safety as well as economic costs. Economic costs could be as high as a million dollars or more depending on the severity and duration of the event (given the reported amounts from SHELDUS.)

Based upon past incidents, Fallon County can expect to experience a major winter storm once every two years.

Assets and Vulnerable Populations that Could Be Affected

This section provides more information on physical, social, and economic assets in Fallon County that might be affected by a hazard. With the exception of the mapped 100-year floodplains in and around Baker, the identified hazard area is the entire county.

The impact area of any given disaster--say an oil well blowout--potentially affects only those in close proximity. Depending on the circumstances, any hazard might affect any of the 1,833 individuals living in Fallon County (as of 2000.) Any hazard might also affect any of the 1406 housing units in the county, the majority of which are located in Baker. (U.S. Census Bureau)

In addition, a disaster could affect **critical facilities**, facilities essential to health and welfare and especially important following hazard events. Critical facilities include fire response and medical facilities, transportation systems, communication and utility systems (such as potable water and wastewater distribution systems), and high potential loss facilities.

Social assets include **vulnerable populations**, people who may be at special risk for a hazard. Identifying these populations assists in providing emergency assistance if and when it may be needed during a disaster.

County-City Administration Building, Baker

Table 3.9 identifies critical facilities in Fallon County and their estimated replacement value in the event of a complete loss. It is intended to provide an initial yardstick measurement of loss because actual damages could range from relatively minor damage to complete destruction, and interruption of service or business. Costs of providing services in temporary locations and loss of business revenue would be in addition to the replacement costs. The critical facilities were identified at the public meeting held on July 7, 2005.

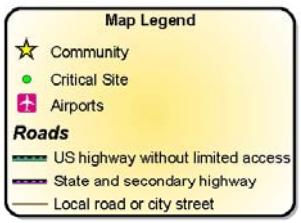
Table 3.9 Critical Facilities in Fallon County

Description	*Insured Value*	*Notes*
Fire Station in Baker	$ 7,762	The fire department is negotiating for land to relocate to, funds are in hand for new structure(s)
Fire Station in Plevna	$ 225,000 (structure) $ 400,00 (vehicles) $ 18,500 (pers property)	The new station is not yet insured. The older hall will be retained and used. The buildings belong to the district.
Ambulance barn	$ 50,000	Personal property $26,530.
County-City Courthouse and Dispatch Center	$6,902,000	The 5-county dispatch and command center is located in this facility. Includes contents.
Baker City Shop and equipment	$ 232,800	
Baker Water Wells and pumphouse	$ 33,000	The city has five water wells. Baker has lagoons, but not waste water treatment plant.
Plevna Water system--pump house and personal property	$ 19,000	Plevna has one pumphouse and 3 wells. Only one well is used at a time. Distribution system is not insured.
Hospital complex	$5,250,000	Hospital complex includes the

		hospital, clinic, and nursing home. Furniture, fixtures and equipment are an additional $2,650,000.
Health Department	$ 162,000	Structure only.
Radio Station-communications equipment	$ 90,000	Source: DOR property classification report.
Mid-Rivers Switching station	$ 251,256 (bldgs) $1,020,542 (com equip)	$ 52,305 in other equipment
Montana Dakota Utilities plant	$ 3,500,000	Junction substation
Fairgrounds exhibit hall	$ 300,000 $ 47,754 (pers property)	The exhibit hall could be used as an emergency shelter
Highway 12 bridge east of Baker	$1,000,000	Over railroad. 2 miles SE of Baker
Highway 12 bridge 3 miles west of Baker	$ 200,000	Over Red Butte Creek
Highway 12 bridge 5 miles west of Baker	$ 400,000	Over Timber Creek
Highway 7 bridge north of Baker	$ 300,000	Over Sandstone Creek, includes removal of old bridge and new approaches
Baker Lake overflow bridge	$ 360,000	
Highway 12 east of Plevna	$ 500,000	Over Sandstone Creek
Airport in Baker	$ 636,000 (hangars) $150,000 (SRE structure) $ 25,000 (gas pumps)	BLM establishes temporary aerial fie fighting from this airport as necessary Value for runways not included
Reynolds grocery	$1,500,000	Located below Baker Lake, inventory worth an additional $500,000
Baker High School	$8,140,554	Includes swimming pool
Lincoln School	$1,735.171	Grades K-4, in Baker
Longfellow School	$1,900,422	Grades 5-6, in Baker
Plevna School	$7,233,100	Grades K-12, includes contents

Sources: Various facilities, local governments, property tax records, etc.
Note: Replacement values include contents wherever that information was available

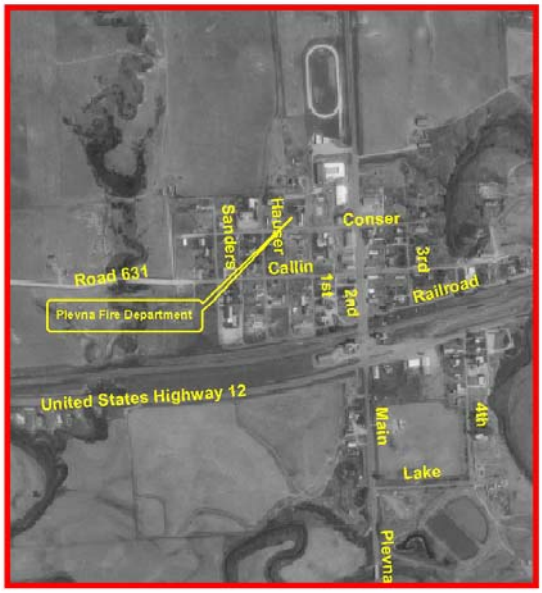
Fallon County Critical Infrastructure

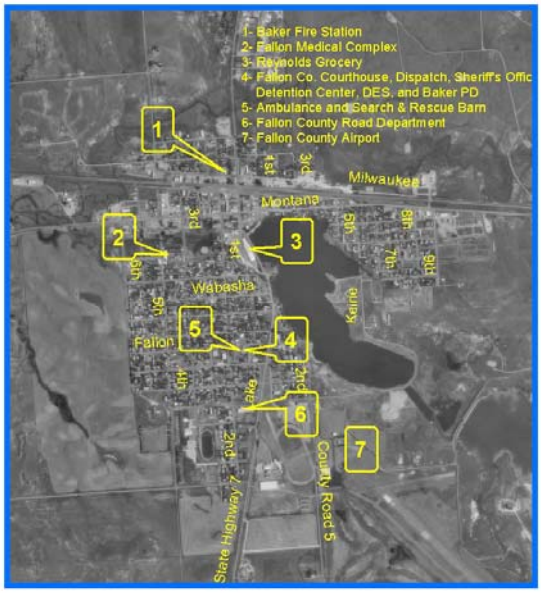


Projection:
State Plane Montana FIPS 2500
NAD83, in meters
August 2005

Data Source:
Natural Resource Information System
*Montana Towns
*Montana Roads from TIGER/Line Files
*Digital Orthophoto Quadrangles for Montana
*Montana 1:24,000 scale Quadrangles
DES
*Critical Sites (ESF)
*Airports

This map was created for fire and disaster planning only. Neither the county or the contractor will be responsible for any data inaccuracies associated herein.





Vulnerable Populations

The following were identified by the steering committee as populations that may require special care or assistance during or after a disaster:

- Elderly—nursing home, senior center
- Children/Schools and daycare
- Handicapped/disabled
- Homebound

There is a nursing home affiliated with the hospital and two retirement homes (Prairie Manor and Parkview) all located in Baker. According to the 2000 census, there were 508 persons in Fallon County 65 years or older (17.9% of the total population.)

According to the 2000 census, 25.5% pf the population, or 723, were children under the age of 18 in Fallon County. Schools are listed in the "Critical Facilities" table above.

Table 3.10 Licensed Daycares in Fallon County

Name	*Location*	*Number Licensed for*
Tender Learning Care	121 E. Center, Baker	13 and over
Pumpkin Patch	119 Orchard Lane, Baker	13 and over
Claire Custer	711 Texas Ave, Baker	3-6
Christy Forstrom	721 S. 2nd West, Baker	3-6
Starla Gundlack	323 S. 2nd West, Baker	8

Source: Schweigert, Fallon County Public Health Department

Currently, the only list of homebound medically at-risk individuals is that maintained by the utilities.

The 2000 census reported that there were 402 non-institutionalized persons in Fallon County, aged 5+ with a disability.

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Chapter IV. Mitigation Strategy

Introduction

This chapter contains a listing of the goals, objectives, and projects to mitigate the hazards of most concern to Fallon County (not including wildland fire mitigation which is addressed in Chapter V.)

Excluding the fire protection goals found in Chapter V, five goals, nine objectives, and 17 projects were identified by the public. Four of the goals address natural hazards--flooding, summer storms, winter storms, and drought. The fifth goal addresses Fallon and three other counties' ability to respond when a disaster occurs.

The following goals, objectives and projects were developed at the first and second public meetings and through input from the County Disaster and Emergency Services Coordinator. The project list drafted at the second public meeting was refined by the contractor and brought back to the third meeting. At the third meeting projects were reviewed, edited, and added and all of the projects were prioritized.

Flood Damage on Route 322 SE of Baker, June 28, 2005

Goals, Objectives, and Projects

1) Mitigate the potential loss of life and property from flooding.

Objective 1.1. Ensure new construction and development does not put property at risk.
1.1.a. Enforce existing floodplain regulations in Baker area.
1.1.b. Make information about floodplain requirements available to the public.
1.1.c. Develop a joint written floodplain policy for the city and county to ensure consistent handling of floodplain activities.

Drainage way below Baker Lake

Objective 1.2. Protect property and infrastructure from flooding.

1.2.a. Develop a plan for maintenance of the Baker Lake spillway.
1.2.b. Replace City Shop bridge.
1.2.c. Develop a drainage plan for the city of Baker.
1.2.d. Monitor and provide input to joint effort with City of Baker and Montana Department of Transportation on Highway 7 south storm water system project.
1.2.e. Install remote monitoring system for Baker Lake dam.

Flooding in Baker, June 28, 2005

City Shop Bridge, Baker

2) Minimize damage and loss of life from summer storms.

Objective 2.1. Warn citizens ahead of storms.

2.1.a. Install a siren in Plevna.
2.1.b. Determine location and install additional siren(s) in Baker.
2.1.c. Purchase and distribute additional weather radios.

Objective 2.2. Provide education about summer storms.

2.2.a. Offer a session for school children and adults on recognizing severe weather and behaving safely in severe weather.

Objective 2.3. Improve weather information across county.

2.3.a. Request more advanced technology to provide more timely and accurate weather coverage of the county.

3) Be prepared for winter storms.

Objective 3.1. Warn citizens ahead of winter storms. Implement 2.1. projects.

Objective 3.2. Ensure adequate power for Plevna in the event of a winter storm power outage.

3.2.a. Obtain a back-up power source for Plevna that can power both the firehall and well/water system.

4) Monitor drought conditions.

Objective 4.1.

4.1.a. Install remote drought monitoring equipment to gather data and document situation.

5) Provide uninterrupted dispatch services for four-county area.

Objective 5.1: Operate the dispatch function even if present location becomes inoperable.

5.1.a. Establish back-up Emergency Operations Center in Plevna.

Project Ranking and Prioritization

The projects were ranked by the following method. There was general discussion about projects at the second public meeting. At the third public meeting the project list was finalized. Meeting participants then ranked each project as high, medium, or low priority against the following criteria:

1) Frequency or likelihood of a future occurrence
2) Potential for loss of life
3) Potential for property damage or economic impact

Project ranking is shown in Table 4.1.

Dispatch Center in Baker

Table 4.1. Project Priorities

Project Number	*Description*	*Priority/ Schedule*	*Potential Resources*	*Costs/ Benefits**
1.1.a	Enforce floodplain regulations	H Ongoing	Baker, Fallon County	Cost: 1 Benefits: L,P
1.1.b.	Floodplain information to the public	H 1-3 years	Baker, Fallon County	Cost: 1 Benefits: L,P
1.1.c.	Develop floodplain policy	H 1-3 years	Baker, Fallon County	Cost: 1 Benefits: L,P,BI
1.2.a.	Develop Baker Lake spillway maintenance plan	H 1-3 years	Baker, Fallon County, DNRC	Cost: 1 Benefits: L,P,BI
1.2.b.	Replace City Shop bridge	H 4-5 years	Baker, Fallon County	Cost: 2 Benefits: P
1.2.c.	Develop a drainage plan for Baker	H 1-3 years	Baker, DES, FEMA	Cost: 1 Benefits: L,P,BI
1.2.d	Coordinate on Highway 7 drainage project	H 1-3 years	Baker, Fallon County, Montana DOT	Cost: 0 Benefits: P,BI
1.2.e.	Remote monitoring of Baker Lake Dam	H 4-5 years	Baker, Fallon County, DES, FEMA	Cost: 1 Benefits: L,P,BI
2.1.a.	Install siren in Plevna	M 1-3 years	Fallon County, Plevna, Dispatch Center	Cost: 1 Benefits: L,P

Costs: 0=no cost, 1=less than $50,000, 2=$50-$250,000, 3=over $250,000
Benefits: L=may save lives, P=may save property, S=may save stock, BI=may prevent business interruption

Project Number	*Description*	*Priority/ Schedule*	*Potential Resources*	*Costs/ Benefits**
2.1.b.	Install additional siren(s) in Baker	M 1-3 years	Fallon County, Baker, Dispatch Center	Cost: 1 Benefits: L,P,BI
2.1.c.	Purchase additional weather radios	L 4-5 years	Dispatch Center, DES	Cost: 1 Benefits: L,P,S,BI
2.2.a.	Education about severe weather	M 1-3 years	Dispatch Center, DES	Cost: 1 Benefits: L,P,S
2.3.a.	Obtain better weather coverage	H 5+ years	Fallon County, DES, National Weather Service, State and Federal elected officials	Cost: 3 Benefits: L,P,S,BI
3.1.	See 2.1. projects above	L-H		
3.2.a.	Back-up power for Plevna	H 1-3 years	Plevna, MDU, DES, FEMA	Cost: 2 Benefits: L
4.1.a.	Monitor drought conditions	M Ongoing	Fallon County, County Extension, USDA	Cost: 1 Benefits: S, BI
5.1.a.	Establish back-up Emergency Operations Center in Plevna	H 4-5 years	Dispatch Center, Fallon County, Plevna	Cost: 2 Benefits: L,P,S,BI

Project Implementation

The projects listed above are the means by which the county intends to realize the goals to become more disaster resistant. Accomplishing the projects will be dependent on funding, staff, and technical resources from a variety of sources including the town, city, county, state, and federal levels of government, not-for-profit organizations, and the business community.

Some of the projects can be undertaken by communities or the county within the existing resources. Examples of this would include the projects to enforce existing floodplain regulations in Baker and develop a joint county-city floodplain policy. Another example of this type of project is the education effort on severe weather which can be undertaken by the dispatch center and DES.

Some of the projects can be completed by a community or the county with additional funds. The amount of funding needed will depend on the specific project. An example of this type of project would be the replacement of City Shop bridge. Obtaining the back-up power source for Plevna may be a partnership project with the town and MDU.

Finally, some projects require expertise and resources beyond the county. For example, the project to obtain improved weather coverage and information will involve local, state, and federal elected officials, the National Weather Service, and perhaps FEMA.

Projects will be accomplished as resources become available. Implementation of the plan will be the responsibility of the LEPC and the County Disaster and Emergency Services Coordinator acting on behalf of the county and municipalities.

In selecting projects to compete for funding whether it is existing town, city, or county funding or funding from state and federal sources, emphasis should be placed upon the relative benefits compared to the costs of the project. Criteria such as number of people educated or protected and dollar value of assets mitigated from potential hazards should be considered and weighed. Where possible a cost benefit and/or value analysis should be completed during planning of the project.

The county and incorporated communities understand that while completion of this plan will make them eligible to compete for additional funds, it is in the best interests of the residents to proceed with those projects that can be done within existing resources while exploring avenues to obtain assistance for those projects beyond local capabilities.

Chapter V. Community Wildfire Protection

This plan is approved and adopted by:

Donald Reiger — Date
Chair, County Commission

Deb Ranum — 11-4-05
Deb Ranum — Date
County Commissioner

Dennis Afrank — 11/4/05
Dennis Afrank — Date
County Commissioner

Sam Thielen — 11-4-05
Sam Thielen — Date
County Fire Warden

Randy Hoenke — 1-24-06
Randy Hoenke — Date
Chief, Baker Fire Department

Gary Thielen — 10-31-05
Gary Thielen — Date
Chief, Plevna Fire Department

Rick Strohmayer — 2-2-06
Rick Strohmayer — Date
Department of Natural Resources and Conservation

Fallon County CWP/PDM Plan
V-1

Executive Summary

This Community Wildfire Protection plan was prepared for Fallon County, Montana. Fallon County, home to an estimated 2,774 residents is located in southeastern Montana.

The county has three fire departments that function as two. The three departments are Baker City, Baker Rural, and Plevna VFD. Each department provides both structure and wildland fire protection. Four communities were identified as medium priority "communities at risk" within the state of Montana. The county fire warden reports that only two of the four communities still exist. These are the town Plevna and the city of Baker, the two incorporated communities in the county. Baker serves as the county seat.

Vegetation in the county is characterized as mixed-grass prairie. Most of the county is devoid of trees. The exceptions include several small timbered tracts, scattered pine on some of the uplands, and mixed deciduous trees and shrubs along drainages. Hazards contributing to wildland fire severity include constant winds, oil and gas development, long-term drought, distance to water, and fuel accumulations on lands enrolled in the Conservation Reserve Program or CRP. Wildland fire ignitions result primarily from lightning. Wildland fires caused by lightning will continue to occur across the county each year. Fires from other causes will continue as well. Fallon County can expect to experience more than one wildland fire every year.

Seven mitigation goals, each with corresponding objectives and projects have been identified. The projects have been prioritized as high, medium, or low priority. Implementation of these projects will depend on staff and dollar resources.

The Community Wildfire Protection Plan was prepared simultaneously with the county's pre-disaster mitigation plan and is incorporated into the plan. The public meetings to develop the pre-disaster mitigation plan also addressed wildland fire. However, in addition to the public meetings held for all types of natural disasters, individual interviews were conducted with the fire chiefs. The county fire warden also provided information for the CWPP. The Department of Natural Resources and Conservation and the Bureau of Land Management served as technical resources and the Bureau of Land Management provided 90% of the funding to prepare the plan.

Introduction

This Community Wildfire Protection Plan (CWPP) was prepared and is incorporated as a part of Fallon County's pre-disaster mitigation plan to make the county more disaster resistant. The CWPP sections of the overall plan address the intent of the National Fire Plan to have communities--in this case, Fallon County, Baker and Plevna—assess the current situation and proposed development, and develop implementation actions to address risks and vulnerabilities. The plan simultaneously meets the requirements for pre-disaster project funding and post-disaster assistance from the Federal Emergency Management Agency to assess risks and vulnerabilities, and identify locally-supported actions that can be taken to reduce the potential for loss and damage in the event of a natural or other disaster.

This plan is also consistent with national fire policy articulated in the National Fire Plan. The National Fire Plan (NFP) was developed in August 2000 "with the intent of actively responding to severe wildland fires and their impacts to communities while ensuring sufficient firefighting capacity for the future." (www.fireplan.gov) The NFP addresses five key areas: firefighting, rehabilitation, hazardous fuels reduction, community assistance, and accountability. Federal agencies are directed in the plan to assist communities that have been or may be threatened by wildland fire. This assistance for Fallon County has been provided in the form of funding and assistance for education, planning, training, and equipping volunteer firefighters.

This CWPP is the result of the participation of key wildland fire stakeholders in Fallon County. This included representatives of:

- Baker Fire Department
- Plevna Fire Department
- Baker City Government
- Plevna Town Government
- Fallon County Commission
- Fallon County Fire Warden and DES Program
- District IV State of Montana DES Program
- Department of Natural Resources and Conservation
- Bureau of Land Management.

A total of three public meetings were held. In addition to the three meetings, the contractor met with the county commissioners, the two fire chiefs were interviewed, and information was obtained from the county fire warden, the state, and the Bureau of Land Management. The meetings were held in Baker on July 7, in Plevna on August 2, and in Baker on August 30, 2005. Each meeting was conducted according to an agenda and was noticed in the Fallon County Times.

Area to be Evaluated

The area to be evaluated is Fallon County, located in southeastern Montana. Fallon County contains two incorporated communities, Baker and Plevna. The population of the county in the 2000 census was 2774, 65% of whom reside in one of the two communities. (www.census.gov/popest) The county encompasses 1633 square miles. (Montana Association of Counties) Elevation ranges from 2800 to 3500 feet above sea level. For more detailed information about the county's characteristics please refer to Chapter I of this plan.

Historic Occurrences

Information was gleaned from a number of sources to determine fire history. Not all of the sources were in agreement with each other. The sources used included local histories, the county commissioners, the public, the fire chiefs, the fire warden, the county dispatch center, the NFIRS data base, USDA disaster declarations, FEMA disaster declarations, State of Montana disaster declarations, the Bureau of Land Management, the Department of Natural Resources and Conservation, the National Climate Data Center, and SHELDUS.

The following was taken from excerpts of an August 11, 1910 letter of Theodore R. Bergstrom in *Homesteading in Fallon County*, "This afternoon we have been fighting prairie fires and nothing else. Burned a lot of hay in bunches, one wagon and rack, and one mower." "Fires at that time were as numerous as times were hard" states the Plevna, Montana-75 Years history referring to 1927 and the Great Depression years.

At the project kick-off meeting and the first public meeting, the county commissioners and members of the public were asked to recall past fires. The Palm Ranch Fire was mentioned. The fire occurred in the southwest corner of the county in 1991. Because the DNRC assisted the county on this fire, they also reported it.

The County Fire Warden and Chiefs were queried about the average number of fires per year and average fire size. Both chiefs have been in their positions many years and the fire warden although younger, has years of experience serving on the Plevna Department as a volunteer fireman. Together they estimated that they respond to approximately 100 fire calls a year. The most frequent fire size is less than 10 acres and the average fire size was estimated at approximately 60 acres.

The county dispatch center was able to research records for call outs for the past several years. The dispatch center provided the following information.

Table 5.1. Fire Callouts Reported by County Dispatch

Department	*Year*	*Number*
Baker City	2004	14
Baker Rural	2004	26
Plevna Town	2004	1
Plevna Rural	2004	8
Baker City	2003	11
Baker Rural	2003	34
Pelvna Town	2003	1
Plevna Rural	2003	11
Plevna-all	2000	13

Source: Chuck Lee, Dispatch Center Supervisor and Incident Reports from Departments

The Department of Natural Resources and Conservation (DNRC) assists the county departments in fire suppression if local resources are inadequate. The DNRC reports that the department assisted Baker on the 1991 1,083-acre grass and timber Palm Ranch fire. DNRC also assisted with the 2500-acre Miles City Creek fire in 2000. No other state assist fires could be recalled. The state plans to implement a basic one-line reporting system that will capture the fire name, date, location, size, and amount of equipment needed for each fire in the near future.

The Bureau of Land Management Miles City Field Office has tracked large fires, over 100 acres, on federal lands since the 1980s. The existing data base contained no fires over 100 acres for Fallon County on BLM lands during this time period. The 20-acre Lawrence Fire in 1999 was the only fire recorded on BLM lands in Fallon County. (Eric Lepisto, Miles City Field Office)

The NFIRS (National Fire Information Reporting System) is a national data base for tracking all incidents. The data base is maintained by the U.S. Fire Administration, within the Federal Emergency Management Agency. Although this is a valuable tool, many departments only recently began submitting their information. The information is available for calendar years 2003 and 2004 only and is an incomplete accounting of all fire incident activity for those years. NFIRS shows that there were nine fire calls in Fallon County during 2003. One was a building fire, five were other fires, one was a severe weather or natural disaster call, and two were false calls. The total fire dollar loss for the year was $14,400. Only three fires were reported in 2004. Of these, one was a building fire and two were other fires. The total fire dollar loss for 2004 was $8,100. (NFIRS data provided by Mike Stotts, Montana Department of Justice)

Two wildfires are reported in the SHELDUS data base. The fires occurred in August and September of 1994. No injuries or fatalities occurred, but property damage totaled $17,543 and crop damage totaled $877 for the two incidents. There were no wildfire incidents listed in the National Climate Data Center information for the years 1950 to 2004. (www4.ncdc.noaa.gov)

There have been no state disaster declarations for wildfire in Fallon County. (Montana State Disaster Declarations, 1975-2004) A federal disaster was declared for Fallon County due to wildfire in the year 2000. Over $11 million dollars in assistance from the federal government was provided to the 49 counties and five reservations that were a part of this disaster. (Federal Disaster Declarations 1974 to Date) USDA disasters were declared for Fallon County in 2000 resulting from fires in 1999 and 2000. USDA disasters were also declared for the county in 2002 and 2003 for "fire, prairie and forest fires" and other types of damages. (USDA Montana FSA Disaster Declaration Summary, 9/2004)

Individual Community Assessments

Baker

The city of Baker was given a rating of medium in the statewide assessment of Communities at Risk.

Baker is an incorporated city situated at the intersection of State Highways 7 and 12. The Burlington Northern Santa Fe Railroad track roughly parallels Highway 12 and passes through Baker on the north side of town. Sandstone Creek runs into Baker Lake, south of Baker, and drains from the lake through town in a northwesterly direction. Lands surrounding Baker are used for residential, commercial, and industrial purposes with a poorly defined community edge. Terrain is gently rolling hills and the fuels are light.

The Baker Fire Department has protection responsibilities for the city of Baker; Bear Paw Energy; a Williston Basin Compressor Station; tank batteries owned by Encore Oil, Burlington Resources, and Continental Petroleum; the Cenex Fertilizer Plant; numerous miles of natural gas and oil pipelines, rural residences and outbuildings, and the airport. The district also contains crop and native grass land and CRP acres. The CRP acres are scattered across the landscape.

Chief Hoenke reports that oil and gas roads provide functional fire breaks throughout the fire district in addition to access. In general, those areas without industry roads contain good standard county roads.

The county fire warden estimates that 70% of the fire calls for the combined Baker Department are wildland incidents and 30% are other. (Sam Thielen, County Fire Warden) The Baker Chief estimates that 75-80% of the fire starts are caused by lightning. (Randy Hoenke, Baker Fire Department Chief)

Baker Firehall

The current aged firehall consists of two buildings. The buildings are located across the street from the railroad tracks and near the intersection of Highway 7 and the tracks. This presents a serious access problem as the railroad at times blocks three street crossings between the firehall and areas to the north. The situation will be remedied with the planned move to a new facility in a different location, still being selected.

Future development will likely be related to the oil and gas industry. A very small number of new residences and businesses associated with oil field support may be built in or adjacent to Baker. But the primary development will be a low density of roads, drill pads, and pipelines scattered across developed energy fields.

Plevna

The town of Plevna was given a rating of medium in the statewide assessment of Communities at Risk.

The Plevna Fire District has responsibility for protecting the town of Plevna, rural residences and associated structures, the Butte Pipeline, the Montana Dakota Utility gas plant located north of Plevna, two grain elevators, and just over 700 acres of crops and wildlands. Plevna has a fairly well-defined town boundary with almost no sprawl. The wildlands include mixed-grass prairie native vegetation and two timbered areas. Chief Thielen estimates that 90% of his fire calls are wildland and 10% other.

Ignitions although primarily from lightning also include the railroad, cigarettes tossed out of vehicles along roads, vehicles in grass, and escaped fires during hunting season.

No future development is planned in the Plevna area.

Southwest edge, town of Plevna

Ollie and Webster

Although the communities of Ollie and Webster were also given ratings of medium in the statewide Communities at Risk list, local fire officials report that the communities no longer exist.

Assessment of Fuel Hazard

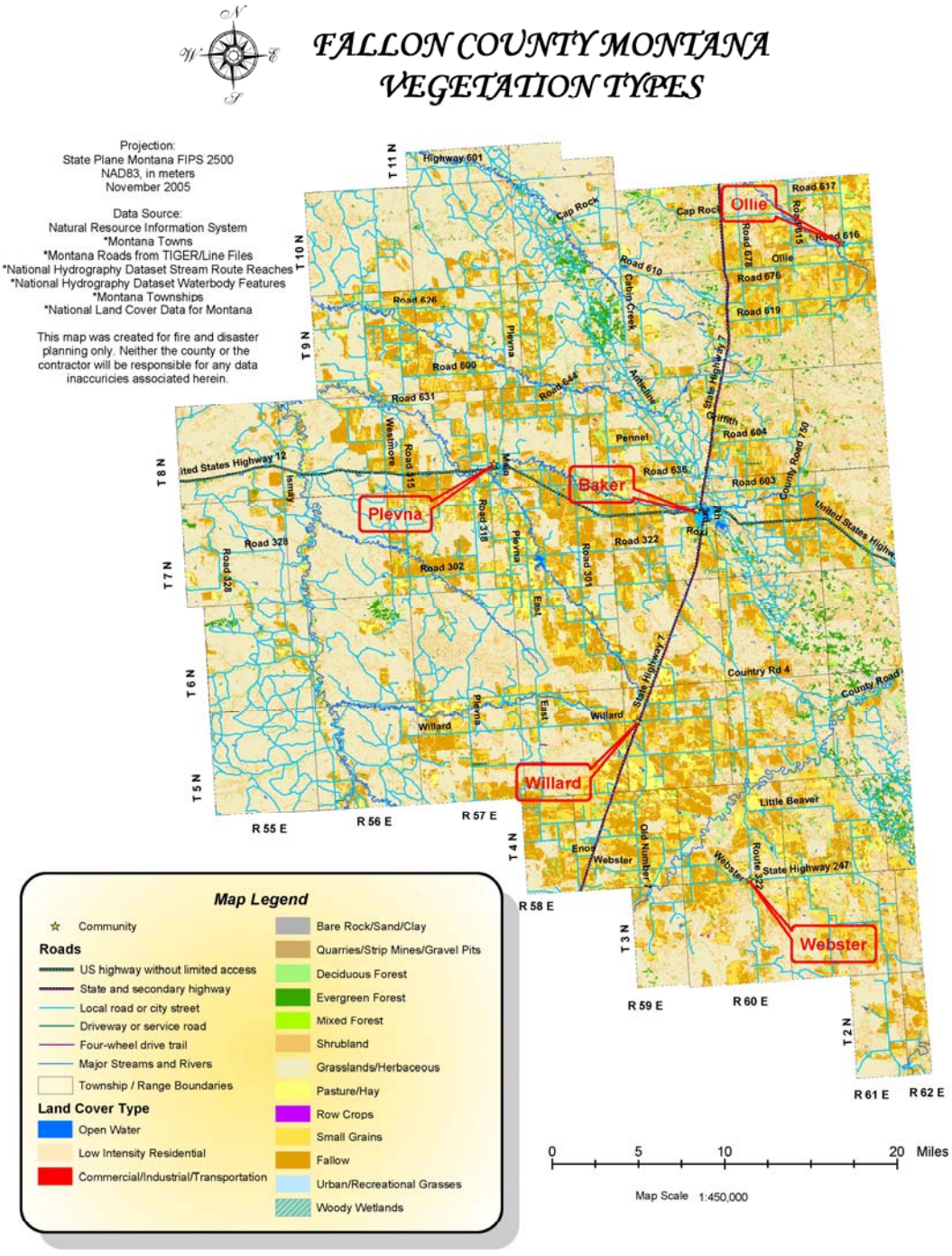
Vegetation

Vegetation in Fallon County consists of native mixed-grass prairie and dryland crops. Topography is gently rolling to steep and broken.

Typical gently rolling to broken terrain-west side of Fallon County

The most accurate description of the wildland fuels found in Fallon County comes from the Miles City Field Office, Fire Management Plan. Although the BLM has no land classified as mixed-grass prairie in the county, the vegetation type is widespread and present on private lands in Fallon County. Vegetation over much of the county is mixed grass species including little bluestem, sideoats grama, blue grama, western wheatgrass, green needlegrass, and bluebunch wheatgrass. Shrubs consist of silver and big sagebrush, western snowberry, and skunkbush sumac. Occasional hardwoods such as cottonwood, green ash, and chokecherry are found in the draws. Juniper and Ponderosa pine are present on some of the upland areas. (Miles City Field Office, Fire Management Plan, Brad Sauer, BLM Fuels Specialist) According to the Montana Fish, Wildlife and Parks, a relatively large amount of native habitat still remains in the county. (John Ensign, Regional Wildlife Manager, Montana Fish Wildlife and Parks, Miles City)

FALLON COUNTY MONTANA
VEGETATION TYPES



Crops cover approximately 241,326 acres of land in the county. All crops are dryland crops. (National Agricultural Statistics, 2002) According to the Farm Services Agency, 45,488.9 acres of land are enrolled in the Conservation Reserve Program in Fallon County. (Maria Braun, July 22, 2005)

Hay field west of Plevna

Approximately eight miles north of Plevna is a 250-acre patch of timber and 10-20 miles to the south of Plevna there is a timbered section of land. Land ownership in the area covered by the Plevna Fire Department includes private, state, and Bureau of Land Management.

Structural Fuels

For the most part, structural fuel hazards are located within or in close proximity to the two communities. There are a number of rural residences, housing approximately 35% of the population in the county. These are scattered across the county.

Housing data from the Montana Department of Commerce found in the CAMAS (Computer Assisted Mass Appraisal System) data base is helpful for understanding the general housing situation in the county. As of February 2005, there were a total of 1,284 housing units in Fallon County. Of this total, 288 were categorized as mobile homes and 996 as single family dwellings.

The largest number of housing units found in any condition category, 387, were classified as in “fair” condition. Fair condition indicates marked deterioration but is still quite usable. Two hundred eighty-one homes are believed to be in either

"unsound" or "very poor" condition. A rating of "unsound" indicates that the dwelling is definitely structurally unsound and practically unfit for use. A "very poor" rating indicates that the dwelling is definitely structurally unsound and practically unfit for use. Repair and overhaul is needed on painted surfaces, roofing, plumbing and heating. There is excessive deferred maintenance and abuse. Property is approaching abandonment or major reconstruction.

Much of the housing stock in Fallon County is aged. Slightly more than half (52%) or 697 of the 1,284 units were built in 1959 or earlier. All but 18 housing units have frame wall construction, 1,266. Ten types of exterior wall finish are documented with the largest number, 730, having wood siding or sheathing. Roof material is shown in the following table.

Table 5.2. Roofing Material on Housing Units

Roof material	*Mobile*	*Single Family*	*Total*
Asbestos	0	9	9
Asphalt shingle	86	610	696
Composition roll	74	129	203
Metal	124	19	143
Slate	0	2	2
Built up travel and gravel	0	9	9
Tile	1	1	2
Unknown	0	1	1
Wood shake	2	4	6
Wood shingle	1	212	213
Total	288	996	1,284

Source: Montana Department of Commerce, Housing Condition Study, February 2005

Source of heating fuel can also have a bearing on a structure's fire risk. The U.S. Census Bureau collects information on heat sources for housing units. Based upon data collected during the 200 census, Fallon County had the following sources of heat in its housing units.

Table 5.3. Residential Heat Sources

Heating Fuel	*Percent of units*
Utility gas	59.1
Bottled, tank, or LP gas	12.7
Electricity	16.1
Fuel oil, kerosene	3.1
Coal or coke	.3
Wood	7.5
Solar	0
Other fuel	1
No fuel	.2

Source:www.census.gov

Assessment of Risk

Local, state, and federal fire professionals are all in agreement that the majority of fire ignitions in Fallon County are caused by lightning. The estimated percentage varies from 70-90%. Other potential ignition sources include roads/vehicles, the railroad, powerlines, oil field activities, farm equipment, recreationists, and fireworks.

Fire starts in critical periods when combined with high winds can rapidly turn a small fire into a large fire. (Miles City Field Office Fire Management Plan, 2004)

Because data about historic fire occurrences is not in agreement and is not complete it is difficult to estimate fire frequency. What is evident is that small wildland fires do occur every year usually started by lightning. It appears that larger fires, 100 acres or more, occur approximately once every 10 years.

Unique Wildfire Severity Factors

Fallon County has a number of unique wildfire severity factors. Among these are the presence of hydrocarbons, the ever-presents winds, the low precipitation, the distance to water, and the amount of land in the Conservation Reserve Program.

Bear Paw Energy, Inc. North edge of Baker

1) Hydrocarbons

The presence of hydrocarbons is one of the primary severity factors in Fallon County. Oil and gas wells, pipelines, storage tanks, and processing facilities offer the possibility of leaks, fires, and explosions to which the fire departments would need to respond. Oil well blowouts, pipeline breaches, or fires at manufacturing facilities although not likely, remain an ever-present possibility. Fighting hydrocarbon fires requires specialized knowledge and experience and presents unique firefighter safety issues.

2) Winds

According to Baker Chief Hoenke, winds are a constant 25 mph across the county. In addition to these constant winds, Chief Thielen pointed out that strong winds frequently accompany weather fronts, and can also occur in the absence of the fronts. Winds not only contribute to fire severity and spread during an incident they can dry vegetation all season long, increasing fire danger.

3) Drought

Fallon County is dry from a precipitation standpoint. Average annual rainfall is 14-18 inches, and recent years have seen prolonged drought. Under these conditions, the potential exists for large fires with rapid spread.

4) Water Availability

Finding adequate water sources for fire suppression in such dry country is a problem in Fallon County. Plevna Chief, Thielen, reports that, “We’ve had fires blow up because we’ve had to go so far for water.” Access to water is a concern no only related to loss of property, but also for public and firefighter safety.

5) CRP Acreage

Both chiefs reported that acreage enrolled in the Conservation Reserve Program present concerns due to accumulated fuels. Many contracts will expire in 2006.

Values to be Protected

Developed Areas

The two developed areas in the county are the communities of Plevna and Baker. The population of Plevna was 138 in the 2000 census. Plevna has residences, churches, the two firehalls, a Post Office, school, and grain elevators no longer in use. The only remaining commercial activity in the town is located on the south edge of town on Highway 12, as is the senior citizen’s center.

Chapter III contains a map of the critical facilities and infrastructure of the county, including Plevna.

Grain elevators at Plevna

Baker presents the opposite situation with both residential and industrial development sprawling outside the city limits to the north, east, and west. The population of Baker was 1,695 in the 2000 census. The city contains the Fallon County Medical Complex, county-city government, the airport, a business district, and schools among other important facilities and infrastructure. Industrial development surrounding Baker is primarily related to oil and gas activity and includes supply, production, and distribution facilities. Incidents with hydrocarbons are more likely to occur near Baker than in the Plevna area.

Air Quality

According to the Montana Department of Environmental Quality, Fallon County is unclassified and assumed to meet all state and national ambient air quality standards. Prevailing winds are out of the west-southwest. Air quality is presumed to be insignificantly affected by road dust and smoke. (John Coefield, Montana Department of Environmental Quality, 7/15/05)

Fish and Wildlife Resource

Fallon County has a large amount of intact native habitat. The two primary habitat niches are grasslands and riparian bottoms. According to Montana Fish,

Wildlife, and Parks, Regional Wildlife Manager, John Ensign, little formal inventory of fish and wildlife populations has occurred in the county.

Big game species in Fallon County include antelope, mule deer, and white-tailed deer. Small mammals such as fox, badgers, hares, and raccoon are found across the county. Coyotes are common.

A full complement of raptors reside in the county including golden and wintering bald eagles; kestrel, red-tailed hawks, Swainson's, and ferruginous hawks, prairie falcons, and owls. Sharp-tailed and sage grouse, turkeys, partridge, and pheasants occupy the uplands. Migrating ducks and geese pass through the county and shorebirds are found at Baker Lake and Sandstone Reservoir and around other water features such as larger stock ponds. The county is home to small numbers of year-round songbirds and numbers of migratory songbirds birds pass through and/or spend some portion of the year.

The fishery in Fallon County is composed almost exclusively of warm-water species. These include pike, perch and bass. Perch and bass are planted in Baker Lake and Sandstone Reservoir. Small numbers of trout may on occasion be planted in deeper private ponds. Painted turtles, various snakes including rattle snakes, and other reptiles and amphibians are found in the county.

Recreation Resource

Hunting and fishing provide recreation experiences in the county for residents and non-residents. According to Montana Fish, Wildlife and Parks, there are many participants in the block management program in the county. Block management lands are private lands that are made available for public hunting. Both upland birds and big game are hunted in the county and the resource is rich enough to support a modest outfitter and guide industry. Non-resident hunters come primarily from the upper Midwest.

Assessment of Fire Protection Preparedness and Capability

Although there are three departments in Fallon County, Baker City, Baker Rural, and Plevna Town/Rural, the three effectively function as two departments. The Baker City and Rural Departments are housed together and staffed by the same personnel including the chief. The two Baker Departments provide coverage for 940 square miles including the city of Baker.

The county has been successful in obtaining grant funds in recent years. These funds have been used to purchase personal protective equipment, spray monitors, cameras, computers, and communications equipment. Dollar amounts by year are provided in Table 5.4.

Table 5.4 VFA/RFA Grant History

Grant Year	*Amount*	*Grant Project*
2005	$ 20,000	PPE, equipment
2004	$ 20,000	PPE, spray monitors
2003	$ 20,000	PPE, equipment
2002	$ 18,431	PPE, cameras, computer
2001	$ 8,040	PPE, communications, equipment

Source: Mike Wiederhold, DNRC
Note: VFA stands for Volunteer Fire Assistance, RFA stands for Rural Fire Assistance

The Baker Departments are housed in an aged facility located on the East side of Baker adjacent to the railroad tracks. The Department has outgrown the current facility and the location is not the most desirable from the standpoint of proximity to the railroad tracks and crossing. Funds have been secured to construct a new facility and the Department is in the process of selecting and negotiating the land for its new location.

Chief Randy Hoenke rates his department personnel as very able to put out wildland grass fires. This district encompasses a very small portion of the Cedar Creek Breaks, but district firefighters have less experience in fighting timber fires. Because of the number of responses to mutual aid calls in other counties, some level of proficiency is maintained for timber fire suppression.

The Baker Departments are staffed with the following number of volunteers, 26 for the city (structural and wildland qualified) and 30 for the county (wildland qualified only.) These are primarily the same individuals. Chief Hoenke reports that the volunteers he does have are very dedicated, but that maintaining an adequate number of qualified volunteers is a constant challenge.

In the northeastern portion of the county, access for suppression in broken unroaded areas can be difficult. This problem has been addressed by obtaining the assistance of the county road crew to create a new access. In cases where this is not possible air support can be requested from the state or federal government, but so far has not been needed. Most other areas of the district have good road access and roads that provide effective fuel breaks as a result of oil and gas development.

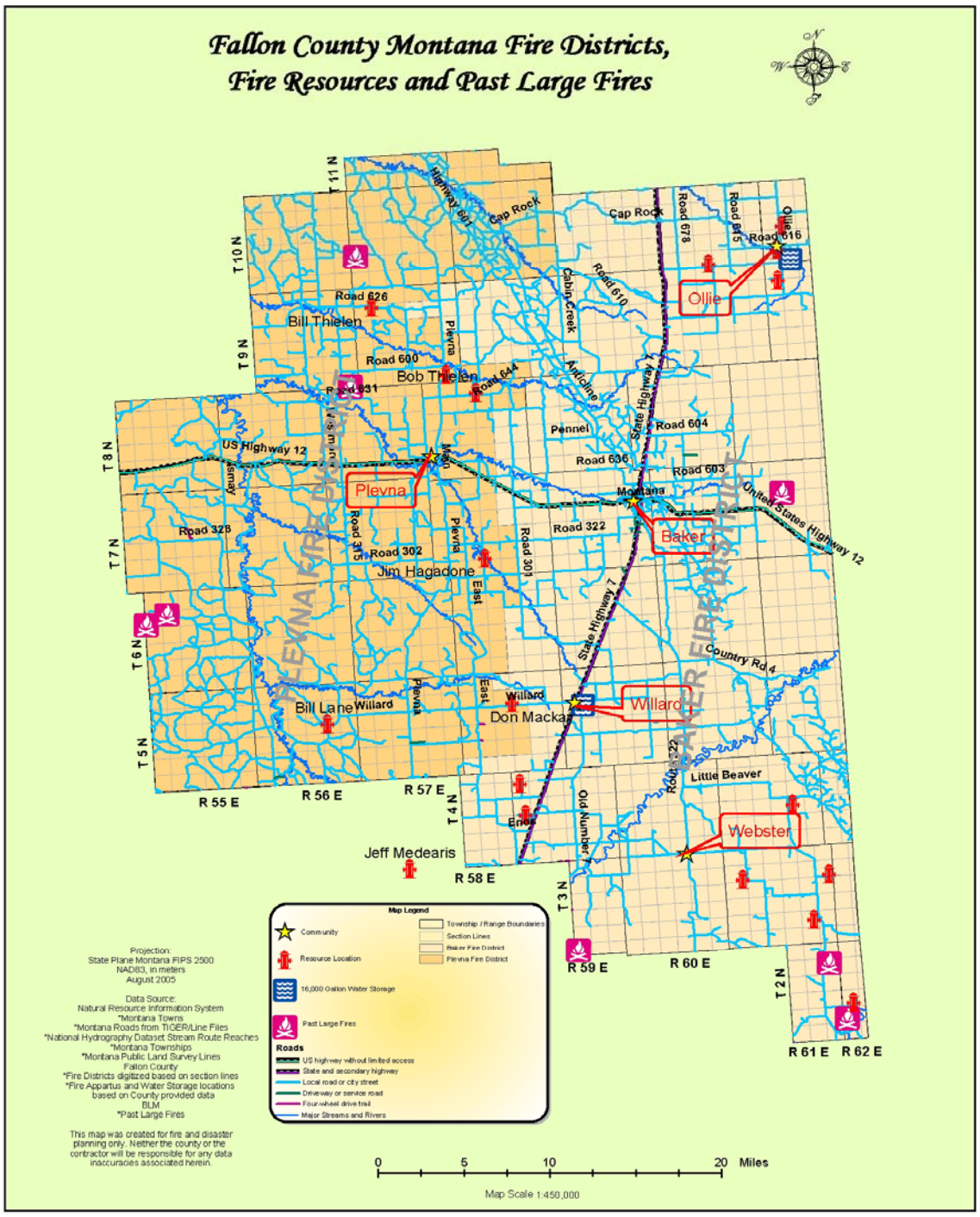

Fallon County Montana Fire Districts,
Fire Resources and Past Large Fires
T 11 N
T 10 N
T 9 N
T 8 N
T 7 N
T 6 N
T 5 N
T 4 N
T 3 N
T 2 N
R 55 E
R 56 E
R 57 E
R 58 E
R 59 E
R 60 E
R 61 E
R 62 E
Highway 601
Cap Rock
Road 679
Road 675
Road 616
Ollie
Road 610
Cabin Creek
Road 626
Bill Thielen
Plevna
Road 600
Bob Thielen
Road 644
Anticline
State Highway 7
Pennel
Road 604
US Highway 12
Road 636
Road 603
Montana
Baker
United States Highway 12
Plevna
Road 328
Road 315
Road 302
Jim Hagadone
Road 322
Road 301
East
Country Rd 4
Willard
Bill Lane
Don Mackay
Willard
Little Beaver
Webster
Old Number 7
Jeff Medearis
PLEVNA FIRE DISTRICT
BAKER FIRE DISTRICT
Map Legend
Community
Resource Location
16,000 Gallon Water Storage
Past Large Fires
Roads
US highway without limited access
State and secondary highway
Local road or city street
Driveway or service road
Four-wheel drive trail
Major Streams and Rivers
Township / Range Boundaries
Section Lines
Baker Fire District
Plevna Fire District
Projection:
State Plane Montana FIPS 2500
NAD83, in meters
August 2005
Data Source:
Natural Resource Information System
*Montana Towns
*Montana Roads from TIGER/Line Files
*National Hydrography Dataset Stream Route Reaches
*Montana Townships
*Montana Public Land Survey Lines
Fallon County
*Fire Districts digitized based on section lines
*Fire Apparatus and Water Storage locations
based on County provided data
BLM
*Past Large Fires
This map was created for fire and disaster
planning only. Neither the county or the
contractor will be responsible for any data
inaccuracies associated herein.
0
5
10
20 Miles
Map Scale 1:450,000

Table 5.5. Baker Apparatus

Number	*Type*	*Where Assigned*
440	Wildland Unit	Baker North-Rustad
472	Wildland Unit	Baker North-Steen
418	Wildland Unit	Baker North-Koenig
424	2000 Gallon Pumper	Baker North-Stark
426	Pumper	Baker FIrehall
483	Wildland Unit	Baker Firehall
445	Wildland Unit	Baker Firehall
415	CAF Wildland Unit	Baker Firehall
489	CAF Wildland Unit	Baker Firehall
420	3500 Gallon Tender	Baker Firehall
478	6500 Gallon Tender	Baker Firehall
490	2000 Gallon Tender	Baker Firehall
475	Suburban (support)	Baker Firehall
416	Pumper	Baker Firehall
460	Pumper	Baker Firehall
482	Hose Truck	Baker Firehall
Rescue 7	Light Rescue	Baker Firehall
409	Suburban (command)	Chief Officer
446	Wildland Unit	Baker South-Burdick
496	Wildland Unit	Baker South-Hayden
442	Wildland Unit	Baker South-D.Meccage
411	Wildland Unit	Baker South-Bruski
433	2000 Gallon Pumper	Baker South-Rusley
448	Army 6X6	Baker South-K.Meccage
476	Army 6X6	Baker South-B.Meccage
437	2000 Gallon Tender	Baker South-Sikorski

Source: Chief Randy Hoenke, July 2005

The Plevna Fire District provides coverage for 730 square miles of the county including the town of Plevna. The department has been housed in one building on the main street of Plevna. A second building, immediately adjacent to the first is under construction and will be finished in the fall of 2005. The two buildings together will provide office, gym, meeting/training, and garage space in addition to a kitchen.

In addition to the county and state resources staged in the county, the BLM has one Type VI engine in each of the following nearby locations; Ekalaka, Camp Crook, and Miles City. BLM also has two Type IV engines and a 3,000-gallon water tender in Miles City. (Paul Pauli, BLM) The Forest Service has one engine in Camp Crook for prescribed fire. Adjacent counties can assist with personnel and apparatus as well.

Plevna engine with mounted monitor

Table 5.6. Plevna Apparatus

Number	*Type*	*Comments*
1000/1000	Class A Engine 1985	Needs replacing
500/500	Type 3 Engine, 1980's	Poor fit for Plevna District
800/125	CAFS Wildland Heavy, 1980's	Compressed foam unit, monitor gun
1200/125	Light Water Tender	Overloaded, needs replacing
4000/1000	Water Tender	Will be replaced by a 1990 chassis with 3000/1000
500/125	2 X Type 5 Wildland Engines, 04	Monitor guns
400/125	Type 5 Wildland Engine, 1999 chassis	Overloaded
400/125	Type 6 Wildland Engine, 1997 chassis	Overloaded
400/125	Type 6 Wildland Engine, 1996 chassis	Overloaded
250/125	Type 6 Wildland Engine, 1982 chassis	Emergency Reserve, no longer in service
250/125	Type 6 Wildland Engine, 1984 chassis	DNRC Coop Slip-in unit
250/125	Type 6 Wildland Engine, 1979 chassis	DNRC Coop engine
	Ford Bronco, 1990	Incident Command unit

Source: Chief Gary Thielen, July 2005

Mitigation Goals, Objectives and Projects

1) Protect people (firefighters and the public) from injury or loss of life due to wildland fires.

Objective 1. Obtain appropriate training for firefighters.

1.1.a. In addition to basic wildland fire fighting courses, host a course in cooperation with oil producers on responding to hydrocarbon incidents.

1.1.b. Establish an all-hazards training facility to train on oil/gas fires, wildfires, structure fires, vehicle fires, hazmat fires and spills, and rescues. Obtain assistance from oil companies to equip and build the facility.

1.1.c. Maintain currency and skills in fighting timber fires by working with adjacent counties on mutual aid calls and with the DNRC to create opportunities for Fallon County fire fighters to receive assignments to other fires outside the county.

1.1.d. Contact oil companies with pipelines under Baker Lake to develop training and/or a response plan in the event a pipeline ruptures under the water.

Objective 2. Ensure firefighters are properly equipped.

1.2.a. Work closely with the oil companies to train and equip individuals in the specialized area of response to hydrocarbon incidents.

1.2.b. Equip wildland fire apparatus with wildland monitor guns.

1.2.c. Switch all equipment to DNRC standards.

1.2.d. Improve SCBA discipline and training for firefighters.

Objective 3. Warn members of the public about wildland fire that may be approaching, and other disasters.

1.3.a. Implement E-911 reverse call-up function. Raise public awareness about this capability.

2) Maintain an adequate number of trained volunteer firefighters in each department.

Objective 1. Recruit and retain firefighters.

2.1.a. Develop an annual recruitment plan for each department that includes some or all of the following; coverage in the local media, handout materials, tours, visits to schools, and mentoring.

2.1.b. Develop community and county recognition programs for length of service and special acts.

3) Address distance to water issues in rural areas.

Objective 1. Reduce time spent to bring water to incidents.

3.1.a. Purchase and install in-ground water storage tanks countywide. Cover areas without an option for dry hydrants.

3.1.b. Proceed with installation of dry hydrants in previously-identified locations

3.1.c. Continue to maintain water resources in remote locations.

4) Improve location and facility for Baker Fire Department.

Objective 1. Implement plans to relocate and construct new facility.

4.1.a. Select final location. Construct new facility.

5) Raise public awareness about fire danger and fire prevention.

Objective 1. Encourage people to think about fire prevention.

5.1.a. Place Fire Danger signs in Plevna and Baker.

5.1.b. Provide an opportunity to recharge fire extinguishers and combine this with education on requirements for farm equipment and other vehicles.

6) Use technology effectively.

Objective 1. Improve response to and data collection about incidents.

6.1.a. Request on-site training in use of NFIRS.

6.1.b. Assign incident reporting to one individual in each department

6.1.c. Retrieve and analyze data at the end of each fire season

6.1.d. Develop GIS capability and fire/fuel map layers

6.1.e. Obtain handheld GPS units for departments' vehicles.

6.1.f. Obtain navigation systems for each ambulance to ensure shortest response time

7) Improve defensible space.

Objective 1. Raise awareness and understanding of defensible space.

7.1.a. Complete a demonstration project to create defensible space between CRP land and/or timber and a rural residence. Conduct a tour of the project in cooperation with the Fallon County Conservation District following completion.

Priority Ranking of Mitigation Projects

The projects were ranked by the following method. There was general discussion about projects at the second public meeting. At the third public meeting on August 30, the project list was finalized. Meeting participants then ranked each project as high, medium, or low priority against the following criteria:

1) Frequency or likelihood of a future occurrence
2) Potential for loss of life
3) Potential for property damage or economic impact

Project ranking is shown in Table 5.7.

Table 5.7. Project Ranking

Project Number	*Description*	*Rank*	*Potential Resources*
1.1.a	Training for hydrocarbon incidents	H	Plevna, Baker Departments, Fire Warden, Encore
1.1.b	All-hazards training facility	M	Plevna, Baker Departments, Fire Warden, Encore, DNRC, BLM
1.1.c	Maintain skills for timber incidents	H	Plevna, Baker Departments, Fire Warden, DNRC, BLM
1.1.d	Training/plans for pipeline rupture under lake	H	Plevna, Baker Departments, Fire Warden, Encore, DEQ
1.2.a	Coordination with oil companies	H	Plevna, Baker Departments, Fire Warden, Encore
1.2.b	Additional monitor guns	M	DNRC, DES, BLM
1.2.c	Switch to DNRC standards	M	Plevna, Baker Departments, Fire Warden
1.2.d	SCBA training and discipline	H	Plevna, Baker Departments, Fire Warden
1.3.a	Implement E-911 reverse call-up	H	Dispatch Center, DES

2.1.a	Annual recruitment plan	H	Plevna, Baker Departments, Fire Warden, DNRC, BLM
2.1.b	Firefighter recognition	L	Plevna, Baker Departments, Fire Warden
3.1.a	Increase water storage	H	Plevna, Baker Departments, Fire Warden, DNRC, BLM, Private landowners
3.1.b	Install dry hydrants	H	Plevna, Baker Departments, Fire Warden
3.1.c	Maintain remote water	M	Plevna, Baker Departments, Fire Warden, Private landowners
4.1.a	Locate and construct Baker fire hall	M	Baker Department
5.1.a	Fire danger signs	M	Plevna, Baker Departments, Fire Warden, BLM
5.1.b	Recharge fire extinguishers/education	M	DES, County Extension, Plevna, Baker Departments, Fire Warden
6.1.a	On-site NFIRS training	H	Plevna, Baker Departments, Fire Warden, Dept of Justice
6.1.b.	Assign reporting responsibility	M	Baker, Plevna Chiefs
6.1.c	Analyze data	M	Baker, Plevna Departments, Fire Warden, DNRC, BLM
6.1.d	Develop GIS capability	M	Fire Warden, DES, DNRC, BLM, FEMA
6.1.e	Obtain handheld GPS units	H	Fire Warden, DES, DNRC, BLM, FEMA
6.1.f	Navigation systems for ambulances	H	Fire Warden, DES, DNRC, BLM, FEMA
7.1.a	Defensible space demonstration project and tour	M	Baker, Plevna, Fire Departments, Fire Warden, Conservation District, Co. Extension

Project Implementation

The projects listed above are the means by which the county intends to realize the goals to become more resistant from negative impacts of wildland fire. Accomplishing the projects will be dependent on funding, staff, and technical resources from a variety of sources including the town, city, county, state, and federal levels of government.

Some of the projects can be undertaken by departments, communities or the county within the existing resources. Examples of this would include the projects

to obtain training in NFIRS and assigning an individual in each department to input the data. Other examples would be the demonstration project on defensible space, developing a recruitment plan, and developing a firefighter recognition program. Another of these types of projects is the citing and construction of the new Baker fire hall that can occur once a location has been obtained since funds are already in place.

Some of the projects can be completed by a department, community, or the county with additional funds. The amount of funding needed will depend on the specific project. An example of this type of project would be obtaining the navigation systems for the ambulances and the GPS units for the fire vehicles.

Finally, some projects require expertise and resources beyond the county. For example, projects related to training or equipment used in the oil industry will require the cooperation of local oil industry personnel.

Projects will be accomplished as resources become available. Implementation of the plan will be the responsibility of the town, city, county, County Fire Warden and two fire departments.

In selecting projects to compete for funding whether it is existing town, city, or county funding or funding from state and federal sources, emphasis should be placed upon the relative benefits compared to the costs of the project. Criteria such as number of people educated or protected and dollar value of assets mitigated from potential hazards should be considered and weighed. Where possible a cost benefit and/or value analysis should be completed during planning of the project.

The county and incorporated communities understand that while completion of this plan will make them eligible to compete for additional funds, it is in the best interests of the residents to proceed with those projects that can be done within existing resources while exploring avenues to obtain assistance for those projects beyond local capabilities.

Roles and Responsibilities

The goals in this Community Wildfire Protection Plan will be realized through implementation of the projects. The plan contains a variety of types of projects. Due to the variety, many individuals and agencies will play a role in project implementation.

Individual property owners will be responsible for educating themselves and taking appropriate action to create defensible space around their structures, both residential and commercial.

For-profit businesses may be involved in sharing expertise on hydrocarbons, as in the case of the Encore or other energy producers. Or, energy producers may be asked to donate equipment no longer in use for training purposes. The Fallon County Times and KFLN may be asked to run features about firefighters to assist in recruiting efforts or special interest pieces to increase fire awareness.

County responsibilities fall in the area of education on existing regulations and investigation of additional regulatory needs. The county may also assist in bringing together parties for cooperative projects.

The Department of Justice will be asked to bring on-site training to the county on using the NFIRS incident system.

The Department of Natural Resources and Conservation will continue to provide assistance to local fire departments in the form of grants, technical expertise, and fire fighting resources.

The Bureau of Land Management (BLM) will provide technical assistance, project funds, suppression assistance, educational materials, and training. The BLM may schedule and carry out fuel reduction projects in cooperation with neighboring land owners including other agencies and private individuals.

The Natural Resources Conservation Service may be asked to assist in monitoring the acreage enrolled in the Conservation Reserve Program as a way to better understand the fuel hazard and educating producers on options available to them on CRP lands to reduce fire hazard.

The Federal Emergency Management Agency (FEMA) may provide grant funds to accomplish projects and may be involved in post-disaster assistance in the event of a catastrophic fire.

Schedule

No firm schedule has been established for accomplishing the listed projects. Accomplishment of projects depends on the availability of resources and funding. Many of the projects can proceed through the efforts of an individual or individual agency or organization, such as developing the county recognition program for firefighters. Not all of the projects will require specific funding, for example, the county could easily request discarded oil field equipment for training purposes.

Other projects such as establishing an oil field incident response training facility will require bringing many parties to the table and the alignment of priorities and funding from several sources. These projects will proceed as the circumstances allow.

As required by the National Fire Plan, federal agencies are to align their funding and staff resources with the priorities expressed in this community wildfire protection plan. As a result, accomplishment of many of the projects will depend on the funding and staffing of the BLM. Additionally, the amount of VFA/RFA funds available to the local fire departments will have an effect on the ability of those departments to participate in the planning and execution of projects on the ground.

By jointly identifying the projects and their priorities with city, county, state, and federal partners, it is hoped that project planning and execution will be well coordinated and occur first on the highest priority projects.

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Chapter VI: Plan Maintenance and Coordination

Responsible Parties

The Fallon County Commissioners will be responsible for ensuring that the CWPP/PDM Plan is kept current. With the adoption of this plan, the commissioners designate the Fallon County Disaster and Emergency Services Coordinator as the lead in accomplishing this ongoing responsibility on their behalf.

Review Triggers

Any of the following three situations could trigger review and update of the plan.

1. The occurrence of a major natural disaster either in Fallon County or nearby.
2. The passage of time.
3. A change in state or federal regulations with which the county must comply.

Criteria for Evaluating the Plan

When review of the PDM plan is triggered by one of the three situations listed above, the plan will also be evaluated for effectiveness and comprehensiveness. The criteria against which the plan will be evaluated will include, but not be limited to;

- Whether any potential natural hazards have developed that were not addressed in the plan,
- Whether any disasters have occurred which were not addressed in the plan,
- Whether any unanticipated development has occurred that could be vulnerable to natural disasters, and
- Whether any additional mitigation project ideas have been developed.

Procedures

Should a major natural disaster occur in Fallon County, the LEPC shall meet following the disaster to review the incident. Upon review of this report, any changes needed to the CWPP/PDM Plan will be recommended to the County Commission and made by the County Disaster and Emergency Services Coordinator following their concurrence.

In the absence of a major natural disaster, each January starting in 2007, the LEPC will meet to review the CWPP/PDM Plan and recommend any needed changes. The LEPC meeting will be noticed in the Fallon County Times and the public will be encouraged to attend. In the interim, the County Disaster and

Emergency Services Coordinator/County Fire Warden will maintain a file into which comments or input on changes to the plan can be kept. The comments in this file will be provided at the LEPC/public meeting to review the plan.

Finally, should state or federal regulations with which the county must comply be significantly changed, the County Disaster and Emergency Services Coordinator will notice and hold an LEPC meeting. At this meeting he/she will inform the LEPC of the new requirements and together with the LEPC, determine whether changes to the CWPP/PDM Plan are warranted.

Every five years, beginning in 2011, the CWPP/PDM Plan will be submitted to Montana Disaster Emergency Services and subsequently to the Federal Emergency Management Agency (FEMA) for approval.

Incorporation into other Plans

Fallon County is developing a growth policy jointly with the city of Baker. Plevna does not have a growth policy. The county has subdivision regulations. The county has an Emergency Operations Plan (EOP) that is in need of updating. The county-city planner is aware of and has provided input to the preparation of this CWPP/PDM.

When the revision of the EOP is scheduled, the County Disaster and Emergency Services Coordinator will ensure that consideration is given to the contents of the CWPP/PDM Plan. The County Disaster and Emergency Services Coordinator who also serves as the County Fire Warden was extensively involved in the preparation of this plan. The Coordinator will direct consideration of the PDM plan as appropriate during implementation of the Enhanced 9-1-1 system and during the development of the Interoperable Communications Strategy.